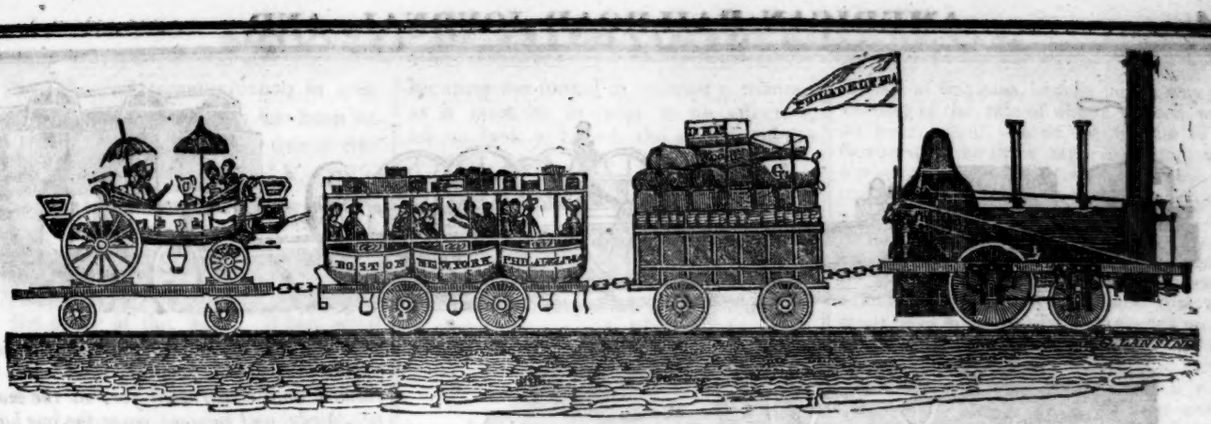

AMERICAN RAILROAD JOURNAL,
A ND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

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AMERICAN RAILROAD JOURNAL.

NEW-YORK, JULY 18, 1835.

To Boston by Daylight.—We understand that the Stonington and Providence Railroad is progressing rapidly. The route is a very level one, and one fourth of it, and that the most difficult, is already graded.

It is expected that the road will be ready for use next season, when all who travel for pleasure will be enabled to leave New-York in the morning in the Stonington steamboat, avoiding all the horrors of Point Judith and open sea navigation, and arrive at Boston in good time, by the Stonington and Providence and Boston and Providence Railroads, the same evening.

Those who travel for business, may, by the same route, leave New-York at night, and be in Boston the next morning; transact business during business hours, and be in New-York to breakfast the next morning; being absent from New-York but one day, and spending that day in Boston: thereby bringing us as near to Boston, in a business point of view, as we now are to Albany.

Another most important advantage which this route has is, that it is always open, as the Stonington harbor never freezes, and was not, as we are informed, even for an hour, the last, the coldest of all winters; and the serious interruption to the intercourse which occurs in winter cannot happen after this road is finished.

The saving of time, the pleasantness of the steamboat passage (it being all within the Sound), and the certainty of uninterrupted communication, will be of immense importance to New-York, Boston, and Providence, and will doubtless greatly increase the already immense travel between them.

[*From the Baltimore American.*]

Canal from Columbia to the Chesapeake.—The organization of the Susquehanna Canal Company took place on the 8th inst. at Columbia, in conformity with the requisitions of the Act of Incorporation passed at the last session of the Pennsylvania Legislature. A President, twelve Managers and a Treasurer, were chosen by the stockholders present, who represented for themselves and their friends about nine-tenths of the whole stock. Shortly after the election was terminated, the Board elect entered upon the duties of their appointment, and on that and the following day transacted all the business which could be disposed of at the first meeting. In the selection of Chief Engineer the Board were unanimously in favor of Edward F. Gay, Esq. a gentleman enjoying a very high reputation for professional talent and experience, and who has for some years past occupied a responsible station as Engineer on the Pennsylvania State works. Among the measures adopted by the Board was one directing the necessary steps for the opening of stock transfer books in Baltimore, Philadelphia, New-York and Boston. We are truly gratified to be able to add that, in reference to the question of the speedy completion of the canal, there is but one opinion entertained by its friends;—the sentiment is as strong as it is unanimous, that the work should be finished at the earliest possible period. The interests of the people of Pennsylvania and those on the tide water are one and the same in regard to this important question, and their mutual co-operation will be faithfully and energetically directed to the successful attainment of their common object. We cannot conclude this paragraph without congratulating our fellow citizens on the auspicious aspect which the affairs of the Company present at the commencement of an undertaking whose accomplishment identifies the interests and prosperity of our city closely and forever with those of the flourishing State of Pennsylvania.

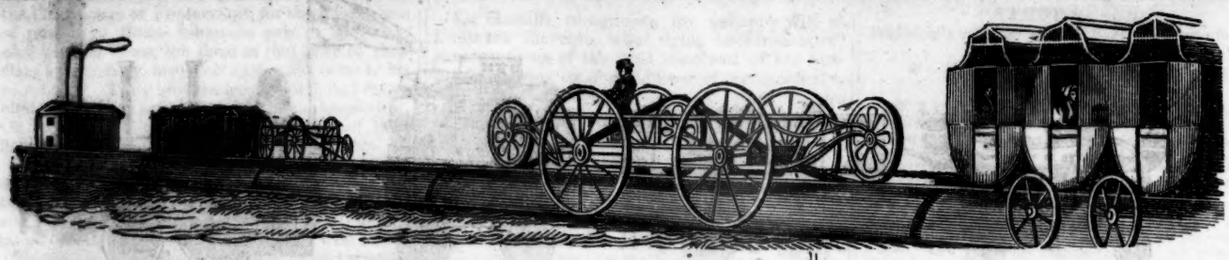
A little too fast.—Under the head of "Progress of Steam Travelling in the United States," we find the following in the London Literary Gazette, of 23d May. It evidently refers to Burden's boat, the catastrophe of which appears to have been unknown.

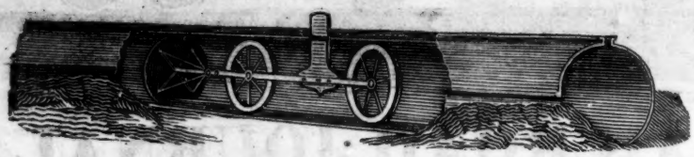
Progress of Steam Travelling in the United States.—In addition to the numerous steam-vessels navigating the Hudson, between New York and Albany, one is now making the trip there and back daily, a distance of 290 miles, in thirteen hours. This vessel is 300 feet in length by 40 broad, formed of two enormously long canoes, sharp pointed at each end, and connected together by a platform, leaving a certain space between them, in which the machinery acts. Upon the platform are built the cabins and other necessary erections. This steamer is for the accommodation of passengers only.

Pneumatic Railways.—We have been favored by a friend in London with the following communication on a new, called *Pneumatic*, system of railways. It must, we think, be considered as one of the *visions* of the day; yet that is no affair of ours, as we aim to give our readers an account of whatever pertains to the subject of internal improvements, be it ever so visionary—if we imagine that any new idea may be gained from it which will, or may, benefit the great cause; and it is for the purpose of eliciting discussion that we lay this communication, and the opinion of Dr. Lardner and Faraday, (published in No. 25 of the Railroad Journal,) before our readers.

That the adoption of railroads as the means of inland transit has become a subject of deep interest to the community, and that their vast advantages are duly appreciated, is evinced not only by the ready support which is given by the public to the spirited efforts now making for their extensive application, but also by the sanction which has been accorded them by the Legislature. Indeed, at the present moment, an almost incalculable amount of capital is actually pledged to the institution of a general system of railway throughout the kingdom.

But notwithstanding the admitted advantages of railroads, as at present constructed, worked as they are by the locomotive steam engine, over the old system of transit, that splendid experiment, the Liverpool and Manchester line itself,—to the projectors and managers of which the nation is so greatly indebted for the stimulus it has given to improvements in inland transit and consequent benefit to commerce, the extent of which, indeed, are not yet fully developed,—has at the same time disclosed the inefficiency of the construction by its utter inability to withstand the violent action and tremendous concussions of the ponderous engine, which is also destroyed by its own





The first figure represents a Pneumatic Railway in operation, with trains on a double track, approaching each other, one having just passed a stationary engine. ☞ This was designed to represent two trains passing a station, but by mistake the station was misplaced by the engraver.

The second figure represents a sectional view of the railway cylinder, showing the internal arrangement.

force, and the imperfections of the locomotive system by the incompetency of the engine to work with advantage except upon a level. Hence the wear and tear of the railways in that line has amounted to not less than £500 per mile per annum, whilst the locomotive engines, of which not less than thirty* are employed upon the road, besides nearly half that number more which come upon it from branch lines, are worked and maintained at the enormous cost of more than £2,000 per annum each.

The immense expenditure of capital required in the formation and construction of the common railroad, owing in a great measure to the necessity of obtaining a nearly perfect level, and the great cost of maintaining and working the ways when they are formed, will necessarily induce the public readily to adopt any improvement which shall have the effect of increasing the *stability of the railway at a diminished cost;* and especially if it combine with it greater *security, efficiency, and economy* in the working.

The invention, which is the basis of the improvement now submitted to the public, consists in the means of applying the elastic and forcing power of the atmosphere, obtained by rarefaction within a hollow cylinder of from thirty to forty inches in diameter, to carriages and cars *running upon rails on its outer surface;* the action being produced and transferred by means of pneumatic machinery worked by sufficiently powerful fixed or local steam engines.

Steam power, used as a first mover, admits of no application so economical as that by means of fixed engines ;† and thus motive power will be obtained at one quarter the expense of that yielded by the locomotive engine. The fixed engine gives also the advantage which the locomotive does not possess, that the intensity of its force can be greatly varied to suit the exigencies of the road, and thus it may be rendered available according to the nature of the slope, or steepness of the acclivity to be overcome, the weight to be moved, and the degree of rapidity required. Unlike that of the locomotive engine, the power of the fixed engine is, *by the improved system*, communicated with no indirect expenditure to the load or train of carriages; whilst the power of the locomotive is first applied to bear along its own ponderous bulk, which is of about ten tons weight, or fully one fourth of its usual load, and, as before remarked, it destroys both railway and engine by its violent action and concussive force.

The power of surmounting acclivities renders the most direct lines of communication available, and thus shortens the distances between places, and avoids the necessity of circuitous routes in search of levels. Moreover, the improved system of railway permits of roads being laid through a marsh as well as over a common or down, and with no greater expense, thus affording the means, in many cases, of avoiding the annoyance, inconvenience, and expense, of running roads through parks, and over arable lands. It may be remarked, too, that the great expense involved in the formation and construction of a railroad upon the common system, is totally sunk in cutting down or in tunnelling through hills, and in building across or embanking over valleys; whereas the main expense involved in the formation of a road on the improved system, is in common iron castings, which being almost indestructible, and possessing an intrinsic value, little or no loss can accrue upon them.

Not only does the improved system present a firmer construction of the railway, and a highly economical application of power, but it affords also greater protection to life and property, in the security of the carriages and cars for the conveyance of passengers and goods, since these are so placed upon the rails, and so connected with the railway itself, that they cannot by any possibility be thrown off or overturned. In consequence of this advantage, whatever objection may exist in the public mind to travelling upon railways, because of the danger connected with the common system, will be entirely removed, and a great improvement may be confidently calculated upon in the important item of passenger traffic.

When it is considered that, *by the improved system, a line of road may be formed and constructed for, at the most, two-thirds, and in some cases for one half, the expense involved by the common system*, and that *such a railway can be maintained and worked with far greater speed, and infinitely greater safety, for three-fourths less than the common system costs*, and that therefore *passengers and goods may be conveyed at one half the price which the common system demands, and then yield a far greater profit*, competition with the Association will be wholly out of the question.

As any degree of speed can be obtained by the improved system, with the most perfect safety, and without the disadvantage, not to say danger, arising from great velocity on the common method, a single line, on the new system, can be made, by the reciprocating plan proposed, to effect as much transit as can be effected by the use of a double line on the former, while the cost will thereby be lessened nearly one half. Hence, communications that may not warrant the expense of a double line of railway, may be advantageously occupied with a single line; numberless lines are in this manner open to the application of the new system, which the common method will not permit of being attempted.

As the invention affords the means of applying the power to the common railway, the proprietors of such must soon be found anxious to avail themselves of its advantages; and thus all the railroads in the country may soon become tributary to the Association, while the interests of the various concerns themselves will be materially improved by the adoption of the improvement.

As many millions are actually invested in this country in canals, and that species of property may be much deteriorated by the general application of railways, unless this improvement which affords them the means of increased speed is adopted by the respective canal proprietaries, the Association may fairly calculate upon rendering all these interests likewise tributary, in exchange for the advantages to be derived from the licence to apply their improved system.

In addition to affording the means of transit upon railways, whether upon the improved or with the common system, the power may in like manner be applied to *effect rapid transit, with great economy*, upon canals.

The practicability of the improvement, and the efficiency of the application, are proved by experimental operation, and confirmed by the opinion of the most eminent scientific men in the kingdom.

* This number, at least, is possessed by the Company, though not more than half of them are at any time in working condition; the other half are always in hospital to be repaired.

† A fixed steam engine will last twenty-five years, and the deterioration will not be more than 1½ per cent. per annum.

The following communication in relation to Pneumatic Railways has been several days in hand. The writer who had only read the article in No. 25 of the Journal, will now have seen more in relation to it in this number.

[For the American Railroad Journal.]

MR. MINOR,—When will common sense be the order of the day? When shall we again be able to look upon a new scheme as one likely to prove practically useful? This is truly the age of invention and originality; but unfortunately we are still wandering in the green fields of imagination. The *Age of Reason* appears to be yet far distant. But who but a man of *original* mind could have invented either of the three plans which have been lately presented to us through the papers, as marvellously practicable, and calculated to produce a new era in the *moving power* of the world. I refer first to the invention, *by somebody*, (my bump of individuality is too small to enable me to remember all the names connected with these things,) of laying rails on the tow-path of canals, thereby incurring the expense of a road over and above the common expense of a canal, for the purpose of substituting a power upon it which can never be used.

Next comes the invention of Mr. Heron, called a "Water Power Railway:" a scheme which, besides costing at least three times as much as Mr. Heron's estimate for it, is as wanting in practical application as the former.

Lastly comes an invention from over the water, fathered also by an American, and backed by the learning of the Rev. Dion. Lardner, Mr. Faraday, &c. This is the "Pneumatic Railway," whereon we are to be impelled by the "thin air."

This is something philosophical! it is worth reasoning about! It appears that after the railroad proper is finished, which of course must be as good, if not better, than those made at present, and consequently will cost as much, then the moving power is to be added.

According to the plan of the patentee, this is to consist of a tunnel provided with a piston, to which the cars are to be attached. The tunnel being exhausted of air by means of air pumps, worked by stationary steam engines, the piston, and consequently the cars attached to it, will be impelled by the pressure of the outward air. Suppose, with the patentee, that six stationary engines be placed between Liverpool and Manchester, they will be five miles apart. Now, when but one train of cars can be put in motion at the same time between the engines, and after a train has passed, the five miles of tunnel will have to be re-exhausted before another train can take its place, it appears to me that either more than superhuman power must be exercised in the management of the road, or that there will be very great delay in passing over it. But admitting all this to be arranged, and suppose also that there will be no insurmountable difficulty in laying down and securing the tunnel in so *exact* a manner as it must be, in order to be effective, let us look a little to the *expense* of the project.

I have no information relative to the material which the patentee intends using in the construction of his tunnel, but take it for granted that it must be of cast iron. The quantity of metal contained in a cast iron tunnel 40 inches diameter, in clear, and one inch thick, will be about 401.67 pounds for every lineal foot, or about 946.7 tons per mile.

The whole cost of the tunnel and its appendages may be estimated as follows:

Naked tunnel per mile, 946.7 tons of cast iron, at $80,	$37,868 00
Suppose the above to be cast in lengths of 5 feet; then, allowing the usual quantity of metal at the joints, this item will amount per mile, to 140 tons, at $40, . .	4,160 00
Chairs, 159 tons, at $40, . .	6,360 00
Stone sleepers, ...	2,500 00
Bolts, spikes, &c., ...	500 00
Workmanship, ...	5,000 00
Total cost for a single track,	$56,388 00
Do. double track, . . .	$112,776 00

To this is to be added the cost of the railroad proper, and the stationary power to work the tunnels—say for the whole $160,000 per mile. A truly economical affair!!

Now, my dear sir, having treated the scheme of others somewhat familiarly, let me exhibit to you a plan of my own, towards which I invite the investigation of scientific men.

I propose making the whole railroad into a tunnel, either by boring the hills, or building upon the surface. Into this a piston must be fitted, to which the cars are to be attached. The *modus operandi* will of course be the same as for Mr. Perkins' tunnel. The difference between Mr. Perkins' and my own scheme is this: Mr. P. first grades his road, and then places his tunnel upon it. It is thereby insecure in the first instance, and liable to derangement ever afterwards; but by my plan, the tunnel and road are one and the same thing. In making the road, the tunnel is made also. Then, as to power, instead of a piston of 9 feet surface, we have one of 144 feet. The stationary engines I propose having outside of the tunnel over the air-shafts.

The expense of a railway of this kind will be about $175,000 per mile, or a little more than one upon Mr. Perkins' plan.

ENGINEER.

June 29, 1835.

[From the London Mechanics' Magazine.]

SAFETY APPENDAGE TO RAILWAY-CARRIAGES.—Sir: Of the various accidents which occasionally happen on railways, those caused by waggons being thrown off the rails by sticks or stones laying across or *on* the rails, are the most numerous. Being on the Stockton and Darlington railway a few weeks ago, I saw an instance of the kind, but fortunately no harm ensued. A train of waggons, heavily laden, was proceeding at the rate of about sixteen miles an hour, when one of the wheels of the foremost of the train came in contact with a piece of coal, which happened to be laying on the plate, and such was the force of meeting, that the waggon leapt two or three inches high. Fortunately, however, it alighted in its proper position on the rails; for, had it gone off the way, such was the velocity of the other waggons, that they must have been inevitably dashed to pieces, and the person attending them either killed or severely wounded. As it was, no further damage was experienced than a slight concussion, which was felt to the end of the train; owing to the first waggon losing time by leaping, and the rest overtaking and striking against it. Being an eye-witness of this *almost* catastrophe, it naturally made me try to devise some plan to remedy the possibility of accident on that head, and the following was the result of my cogitations. On each side of the first waggon of the train, I would have a kind of shovel fixed, so hung as just to clear the rail, that it may cause no unnecessary friction. Now, were a stone, stick, or any thing else, laying on or across the way, it would be an utter impossibility for the waggon to run over it, as it would not come in contact with the wheel. The shovel would either throw it off the rails or push it forward. Even if a man should fall across the road, as sometimes happens, instead of having his legs cut off, he would be thrown on one side, and be but little if at all hurt. This shovel might be hung by an adjusting chain, and in cases of severe frost, or a slight fall of snow over-night, might be let down upon the rail, when it would prepare it for the progress of the vehicle.

I am, Sir, yours respectfully,

WM. PEARSON.

Bishop-Auckland, Nov. 4, 1834.

[Since the date of the preceding communication from Mr. Pearson, we have received another letter from him, in which he says: "About two days after I had sent you my proposed Safety Appendage for Railway-carriages, an accident happened on the Stockton and Darlington railway, which I feel assured could *not* have happened had the plan there proposed been in use. The misfortune alluded to befel as follows: an engine, with a train of waggons, proceeding down the way at a rapid rate, came in contact with an old brake, which was laying across the rails, and by the concussion the engine was thrown off the road—the engine-man (James Cleasby) was killed, his brains being dashed out against the water-tank, and much damage was done besides. The proprietors of the railway were so convinced that the brake had been designedly laid across the way, that they offered a reward of twenty pounds on the conviction of the miscreant who did it; but, unhappily for the cause of justice and humanity, the 'foul deed' has not yet been brought to light. On hearing how the accident occurred, I felt convinced that the appendage I have proposed would have prevented it. It must either have pushed the brake before the engine, till the engineer became aware of the impediment, or have eventually shoved it off the road! The wheel *could not possibly* have come in contact with it, and therefore the engine *could not* have been thrown off the road!" Two plans for the prevention of such accidents, very similar to that of Mr. Pearson, were proposed by Sir George Cayley, Bart., and Mr. Suddington.—Ed. London Mechanics' Magazine.]

The following notice, from the U. States (Phila.) Gazette, of Mr. Young's apparatus for preventing fire from locomotive engines, is well worthy of attention. It is very important that measures should be adopted on *all* railroads to prevent accidents by fire. We earnestly recommend Mr. Young's improvement to the attention of those interested in railroads—"an *ounce* of prevention, &c." Every person understands this old adage.

YOUNG'S PATENT SPARK CATCHER FOR LOCOMOTIVE ENGINES.

Mr. Editor: At a time like the present, when the extension of railroads throughout our country is becoming so general, and the employment of locomotive engines has become a matter of course, I deem it important that all persons connected with the management of railroads should be made acquainted with the fact, that a complete remedy exists for the greatest nuisance to which this mode of travelling is liable, viz: the emission of sparks from the engine. That remedy is to be found in the contrivance with the name of which this article is headed, and the patentee is prepared to dispose of the right of using it, either at a reasonable rate for each engine, or at a gross sum, to be paid for the privilege by each company that may be desirous of availing itself of his invention.

It is now upwards of two years since the Spark Catcher of Mr. Young* has been in use on the New-Castle and Frenchtown railroad, since which period no instance has occurred on that road of a single garment having had a hole burnt in it by a spark from a locomotive engine. Of the tens of thousands of persons who have travelled the New-Castle road during the period named, not one can be found to gainsay the above statement.

Is there a single person, who has travelled on any other road in the United States, on which locomotives are used, with wood for fuel, that has not been annoyed, and either had his flesh or clothing burnt during his journey, by the means I have mentioned? I do not believe there is one to be found.

Is the Camden and Amboy road free from the intolerable and dangerous annoyance? No!—Baggage cars have been burnt, passenger cars have been on fire, and ladies almost denuded.

Is the great thoroughfare of Pennsylvania, the Columbia railroad, free from it? No! Barns, wood, crops of grain, and fences, have fallen beneath the flames in turn.

Are the Philadelphia and Trenton, the Philadelphia and Germantown,—in a word, are any of our railroads in the whole country, from Maine to Louisiana, provided against the inconvenience and danger of which I am speaking? No! not one.

We have arrived then at this point; the greatest drawback to the pleasure and safety of travelling on railroads with locomotive engines, is fire emitted from the chimnies of the engines, and against this a perfect preventive exists, the right to use which may be obtained by any Company that see proper to purchase it, at a reasonable price. One Company only in the United States has availed itself of it. The question for the public to decide is, whether they will suffer this sort of carelessness or false economy to prevail in Railroad Boards any longer, and allow their own property and lives, and those of their wives and children, to be jeoparded, or whether they will resolve with one accord to prosecute in all cases of damage the Company that undertakes to convey them safely without taking the proper precautions to do so.

The writer of this article is as ardently attached to the railroad system as any man in the country. He has long looked on the monstrous abuse, he is now noticing, in silence, but a solemn sense of duty, quickened by a recent signal illustration of the danger to which life is subjected by neglect in guarding against the particular evil of fire, has at length urged him to break his silence.

And I hope that this brief notice may induce a general attention to the subject, which is one, in my humble judgment, of paramount importance both to the corporations alluded to, and the public.

One word more. The assertion is distinctly made, and all contradiction of it defied, that Young's Spark Catchers are a perfect preventive to the emission of sparks from the chimnies of locomotive engines when in use. I believe it might be asserted with equal safety, that no other contrivance has been found to answer at all.

June 16th. L.

* Mr. Young is the Engineer of locomotive power on the New-Castle and Frenchtown road, and resides at New-Castle.

[From the Farmers' Register.]

On Price—the Causes and Effects of the Fluctuations considered, and the Principles maintained applied to the Present Rage for Speculation. By THOMAS R. DEW, Professor of Political Economy, &c., in the College of William and Mary.

[The following communication was intended by its author to appear anonymously—and it may be observed that its form still accords with that intention—though we have obtained permission to give the author's name. This mark of its origin was desirable, not only for reasons which are sufficiently obvious, but also because the facts treated of are in some degree effects of the causes considered by the same writer in his "Essay on Usury," in Vol. II. of Farmers' Register—and the reasoning of the two communications have a corresponding connexion.

The exhibition of the principles which constitute *price* in general, and the investigation of the causes of unfounded and ruinous fluctuations, may be serviceable to the agricultural community at this time, when there is every indication of the approach of one of those fits of national delusion or madness, such as occurred in the time of non-specie paying banks in this country, and such as every commercial country is sometimes liable to suffer from.

In addition to the close connexion of this and many other subjects of political economy with agricultural interests, we find ground for especial approbation of Professor Dew's manner of inculcating his doctrines, by showing their bearing on current events, and offering tests of their truth, in accessible and striking practical proofs. Without resort to some such mode of attracting attention to what is generally (though incorrectly) deemed a dry and repulsive study, the abstract truths of political economy will continue unknown to governments and to nations, long after having been established and undoubted in the opinions of reading men. Thus Adam Smith's exposure of the restrictive (or 'commercial) system of Europe had delighted and convinced the learned and literary community for half a century before it had any effect on the action of the British government, and his admirable work had long been a text book in the colleges in the United States, while our legislators still continued to act in defiance of its truths, on questions of national policy, and in accordance with the notions on trade of the past ages of darkness and ignorance.

Having thus expressed general approbation of the author's views, it is proper to mention an exception — which expression of dissent would otherwise be uncalled for, and unnecessary. It relates to the effects anticipated to Virginia from the present high price of slaves. That such consequences, whether immediate or remote, will follow, we have not been convinced by the author's argument.—ED. FARM. REG.]

But a little while since, as we all but too well remember, the country was plunged into the utmost distress from want of money, lowness of prices, and failure of credit every where; now we seem to be fast rushing into the opposite extreme—money is becoming very plentiful, prices have almost doubled, and commercial credit seems every where re-established. A speculating mania has been generated in our large commercial cities, and seems rapidly spreading itself through our country. If then this be a season of prosperity, it is one of hazard likewise. Now is the time for the exertion of that prudent foresight and calm deliberation, which alone can carry the man of wealth safely through those great and sometimes rapid fluctuations of prices, always attendant on the rage for speculation. I propose briefly in this communication to point out the operation of those causes which are calculated to make money plentiful or scarce, (as it is commonly termed,) and to show their operation on prices at this moment. This investigation cannot, I think, fail to be interesting at this time, and I hope will call forth the speculations of others much more competent to do justice to the subject than myself.

Circulating Medium.—The first subject, undoubtedly, to which we must turn our attention in an investigation of this kind, is to the currency. What is the currency? What are the items which compose it? Every thing which passes from hand to hand, and will perform the function of money, must be regarded as currency. First then come the gold and silver coins, and bank paper; these of course form a part of the circulating medium, but not the only, or even the greatest or most important portion. Bonds, promissory notes, scrip notes, bills of exchange, stocks of every description, form likewise a portion of the circulating medium. All of these pass from hand to hand, and represent value, and therefore perform the functions of money. For example, I buy a tract of land, for which I give $10,000, and pay for it by passing to the seller ten bonds of a thousand dollars each. Now this exchange is effected without a single dollar of real money, merely by the agency of credit: in the same way I might have paid for it in stocks, or by giving bills of exchange, &c. But although these are to be looked on as circulating medium, it is evident that equal quantities of them will not perform as many exchanges as money; for the value of money is well ascertained—it bears no interest whilst in our hands, and therefore it circulates rapidly and effects many exchanges: whereas the value of bonds, promissory notes, bills of exchange, stocks, &c., have a value more indefinite; and most of this species of paper, too, bears an interest while in our hands. Its circulation is there-

fore comparatively sluggish, in consequence, first, of the difficulty of fixing its value; and second, because we make a profit on it whilst lying in our hands, and therefore are in no hurry, generally, to get rid of it. But although this portion of the circulating medium be greatly inferior to money in the performance of the functions of circulation, yet it much more than makes up for this deficiency, by the vast amount of it which is in circulation. In England, for example, it has been computed that the bills of exchange alone in circulation are ten times more in amount than the whole money in the country: while the latter is estimated at £40,000,000, the former reaches the enormous aggregate of £400,000,000. In our country, the Bank of the United States alone does a business in exchange amounting in the year to more than $250-,000,000; while its own paper in circulation has never reached one capital, or $35,000-,000. Now, the bonds or promissory notes of individuals may be looked on as rising, in amount, infinitely beyond the aggregate of the bills of exchange and money together. Comparing then all the items of the circulating medium, *exclusive* of money, with the money, we shall be astonished to see how insignificant in quantity the latter is, when compared with the former. The fact is, money performs but few of the exchanges of society, by actual passage from hand to hand. "In England," says Mr. Wade, "by the use of bills of exchange, bills of lading, checks, scrip notes, clearing houses, and a variety of other contrivances, aided by a vast fabric of credit taken and given in open account, money (in its common acceptation) hardly ever enters into mercantile affairs; it is the substance really meant and shadowed forth; but it rarely, as one may say, bodily passes from hand to hand." In our own country, every one, too, must have observed how rarely the exchange of large masses of property are effected by the intervention of money. In the great majority of cases, the property is paid for by the passage of bonds, bills of exchange, stocks, &c. and but a small portion by actual money. Hence what are called cash sales, if too frequent all of a sudden, in a particular neighborhood, even in times of great prosperity, will cause the property to be sold at a sacrifice, because of the great difficulty of commanding the actual money to make the purchase.

Effect of Rapidity of Circulation.—Having thus explained my notion of the components of the circulating medium, and shown that money is vastly inferior in amount to all the other items combined, let us now look a moment to the effect produced on the circulating medium by a rapid or sluggish circulation. And it is very evident, that while the quantity of the currency remains the same, its apparent amount and real efficacy may be either increased or diminished, merely by an increase or diminution of the rapidity of circulation. For example, $10 passing through ten hands, in the course of the day, will accumulate as much property as $100 passing only once from hand to hand. Now, supposing the whole circulating medium to remain stationary in amount, but that the rapidity of its circulation is suddenly doubled throughout the whole country, then its *apparent* amount and its *real* efficacy would be doubled likewise. With the help of these incontrovertible principles, let us now proceed to examine into the effect of the late money pressure in the United States; 1st, On the rapidity of the circulation—and 2ndly, On the amount of the circulating medium.

1st. *Effect on Circulation.*—I shall not pretend to enter into an investigation of the causes which produced the late pressure in the money market. The nation has already been fully and completely enlightened upon this subject, by men whose minds can compare with any which the world can furnish. Moreover, it would require me to enter more fully into the field of politics, than would be agreeable to myself, or suitable to an agricultural journal. Suffice it to say that the pressure did every where take place; that a general difficulty of procuring money existed throughout the country; that prices, for a season, fell every where; and that confidence and credit for a short time, in the great commercial towns, were almost entirely destroyed. First let us see the effects of all this on the exchanges in society, and then on the rapidity of circulation in the currency.

During a pressure of the kind just spoken of, the loss of confidence and fall of prices force a great deal of real and other property in the market, to be sold for payment of debts, which ordinarily remains stationary in the hands of its owners. Lands, houses, negroes, stocks of goods, &c., are thus forced to change hands, and of course increase the exchanges. Perhaps the sinking of prices generally may have a tendency to diminish the sales of the annual products of the soil, such as corn, wheat, tobacco, and sugar; but not of cotton, for the foreign market is the regulator of the price of this very important article. Hence it may be said, that a money pressure at first has a tendency, by the great quantity of property forced into the market for sale, rather to increase, than diminish the number of exchanges. Whilst, however, the number of exchanges increase, the circulating medium suddenly becomes much more sluggish, taking the whole aggregate, in performing the functions of circulation. The great capitalists who are in the habit of purchasing produce with a view to sell with a profit, when prices are falling, rather keep aloof from the purchase of raw produce, least a further fall may injure them—their capital then circulates more slowly, and in consequence of it, the annual productions of the country are not distributed with that regularity, and adaptation to the various wants of the community, as under ordinary circumstances. The body politic, in this situation, is like a patient suffering congestion in one part of the system, while there is a depletion almost to the loss of vitality in another.

Again: bonds, bills of exchange, &c., ordinarily performing the larger portion of the circulation of every country, have now a much slower circulation, and consequently less efficacy in effecting the exchanges; because as there is a general loss of confidence and credit, A, who has sold to B, is distrustful of his bonds, his bills, in fine of credit in every shape — he wants money. Money too has generally a sluggish circulation on such occasions, for every one getting possession of it, is disposed to hold it as long as possible—hard money seems to be almost the only true friend which one can get hold of in such times as those, and is consequently held with a miserly grasp. Persons will not venture it out without the best security, and on high rate of interest, obtained either directly or indirectly.*

* An inconvertible bank paper is never hoarded in this manner. It is like fire in each man's hands, he wants to get rid of it as speedily as possible, lest it may be caught on him at a still lower point of depreciation. Hence the inconvertible paper of the Bank of England, in 1797, soon relieved the money pressure, but only to bring on evils greater still, as an inconvertible paper always will do.

Thus we find, first, that the number of exchanges has a tendency to increase during the first operation of a money pressure; and second, that the whole circulating medium of the country suddenly, from the very same cause, diminishes in the rapidity of its circulation, and therefore becomes less efficacious, as I have already proved.

2nd. *Effect of money pressure on actual amount of circulating medium.*—Let us now examine into the state of the circulating medium, and see whether, during a money pressure, it has any tendency to increase in quantity, so as to counteract the operation of the causes above specified. It is evident, first, that the money has no tendency to increase in quantity; because, first, the banks are distrustful of the credit of individuals, and of one another; the curtailment forced on one communicates to another, and finally all are obliged to curtail their accommodations and issues—hence a decided diminution in bank paper. Secondly, gold and silver in actual circulation diminishes in amount, because of the universal disposition to hoard, in consequence of loss of confidence. Thirdly, bonds and bills of exchange will generally diminish in amount, because these depend on credit altogether, and the first effect of the pressure is the destruction of confidence, and the ruin of the whole fabric of credit. Fourthly, stocks of every description diminish in value, or are entirely destroyed, by the disastrous operation of the times. Money, and not stocks, is what the times call for. And thus do we see, that while the exchanges increase, the circulation of the currency grows sluggish, and the quantity in actual circulation rapidly diminishes.

Combined effect of these causes.—What then, let me ask, is the effect of the combined operation of an increase in the number of exchanges, greater sluggishness in the circulation, and diminution of the whole circulating medium? Most undoubtedly, a continued fall in prices, until certain causes are thrown into operation, which will counteract this downward motion. Mr. Hume, in his History of England, says there is a point in the depression of nations, in the scale of circulation, below which they cannot sink. Amelioration will then spring out of the very disorder itself. So I would say in the disasters of trade and agriculture, there is a certain point of depression below which they cannot go. The self-sustaining energies of commerce are called into play, and apply the healing balm without the interference of government. Thus the causes, whose operation I have just been considering, gave a downward motion to prices in our country, until they reached that point which made this one of the worst markets in the world to sell in, and one of the best to sell from. The effect of this on foreign exchange will readily be perceived. More commodities were exported than imported. A money balance was created in favor of the nation. Hence a rapid and full current of the metals was soon seen flowing steadily into the country, and supplying the vast deficit in the circulating medium, occasioned by sluggishness of circulation, and diminution of the quantity from general destruction of confidence and credit. We all very well recollect, that a short time since, almost every paper announced the fresh arrivals of cargoes of gold and silver—and we know that, at this moment, we have more foreign coins in circulation than have been seen in the country for years past. The banks too seem generally to have drawn to their vaults large portions of the precious metals.

(To be continued.)

[From the Journal of the Franklin Institute.]

Report to the Board of Directors of Bridges, Public Roads, and Mines, upon the Use of Heated Air in the Iron Works of Scotland and England. By M. DUFRENOY, *Engineer of Mines. Paris*, 1834.

(Continued.)

ENVIRONS OF DERBY.

The coal basin of Derby, a prolongation of that of Sheffield, contains many large iron works; three of them, the Butterly, Codnor Park, and Alpdon works, have adopted the hot air blast. I visited the first two, under the charge of Mr. Jessop, one of the most intelligent iron masters in the kingdom. The heating apparatus of all these differ from those I have described, and, in some essential respects, from each other. For this reason, I have deemed it proper to describe them in detail, though the results which they give are not so favorable as those obtained at the Calder works.

Butterly Iron Works contains three smelting furnaces. The iron there made is intended for castings, either of first or second runnings. One furnace only was in blast when I visited Derbyshire. The air for the blast was heated by an apparatus at each tuyere; this apparatus was composed of the large pipes, A B C, (figs. 11 and 12,) 27 inches diameter in the clear, placed horizontally one over the other, and separated by arched plates, *m n*, *m' n'*. These pipes are connected in pairs, by elbow pipes, *d e*, *d' e'*. The air from the blast engine enters by the pipe *c*, and makes its exit at *g*, after having passed the length of the three pipes successively. The joints are placed on the outside of the furnace proper; but to prevent the air being cooled in traversing the elbows, they are cased in brick-work.

The elbows connecting the long pipes are in plates, connected by bolts and nuts, passing through lugs, or flanges. The pipes are one and a half inches thick, and rest upon fire lumps, *t t*, placed at proper distances upon the arch plates, *m n*, *m' n'*. This disposition allows the flame to envelope them on all sides.

The first pipe, A, is not exposed directly to the action of the fire; it is separated from the grate by an arch of brick, extending the whole length of the furnace, which allows the flame to pass by the flues, *v v*. The partitions, *m* and *n*, have openings, *p* and *q*, placed at the opposite ends of the furnace, so as to compel the flame to traverse the whole length, without escaping from one story to another. All the arches are of fire brick, one brick thick. The expenditure of this apparatus is 62 cwt. for each ton of casting made. The air is raised to 360° Fahr. Notwithstanding the feeble temperature, a great economy of fuel is effected, as indicated below.

Consumption and products during the first week in July, 1830, from furnace No. 2, worked with cold air, 159 tons 5 cwt. of coke,—corresponding to 218 tons 10 cwt. of coal, 109 tons 17 cwt. of ore, and 35 tons of flux,—produced 83 tons metal.

Consumption and products of furnace No. 2, on the 17th of July, 1833, heated air being used: The furnace received forty-one charges, each composed of 9 cwt. crude coal, 9 cwt. ore roasted, and 3 cwt. flux. The average of the first fortnight in July had been forty charges per day, and the iron produced seven tons.

Upon comparing, from these data, the consumption of the two periods, one ton of iron required as follows:

1830. Cold air and coke—Coal, 5 tons 16 cwt.; ore, 3 tons; flux, 1 ton.

1833. Heated air and coal—Coal, 2 tons 18 cwt., including fuel to heat the air; ore, 2 tons 11 cwt.; flux, 1 ton.

To know the whole expense of fuel, that used by the blast engine must be added, for which I have no precise data; but this expense must necessarily diminish in proportion to the increased yield of the furnace.

At Butterly, therefore, a saving of one half the fuel has been effected by the introduction of the new plan. The quantity of flux remains the same, because the sulphurous nature of the coal requires a large proportion of lime.

The blast engine, which served but two furnaces, now works three; but to obtain this increase, a larger cylinder was put in. Formerly, the cylinder was seventy inches in diameter, and eight feet stroke, working thirteen revolutions; now, the cylinder is eighty inches, the length of stroke and number of revolutions remaining the same.

The quantity of air expended, which was 2,500 cubic feet per minute, is now reduced to 2,160 feet; but the pressure, two and a half pounds to the inch, has undergone no variation. The opening at the mouth of the tuyere has been reduced from two and a half to three inches; the iron produced is intended for castings.

Codnor Park Works.—This work consists of three furnaces, three refineries, and a sufficient number of puddling furnaces to work up all the metal. These furnaces have worked for the past year with heated air and crude coal. The substitution of heated air has produced a saving of fuel similar to that stated for Butterly; 2 tons 9 cwt. being now sufficient to obtain one ton of metal, which formerly required five tons. It should be remarked, that the expense of coal has always been less at Codnor Park than at Butterly, on account of the difference in the quality of iron produced. This difference would be much more sensible, if the same quality of coal was used at both works; but at Codnor Park the soft coal is used, while at the other a variety called cherry coal is used, which better resists the action of the blast.

Consumption for one ton, using cold blast: Butterly, 5 tons 16 cwt.; Codnor Park, 5 tons.

Same with hot air—Butterly, for smelting 2 tons 12 cwt., apparatus 6 cwt., total 2 tons 18 cwt.; Codnor Park, for smelting 2 tons 9 cwt., apparatus 6 cwt., total 2 tons 15 cwt.

The apparatus employed at Codnor Park, for heating the blast, is composed of two pipes, A and B (figs. 13 and 14,) placed one above the other, in which are inserted small pipes, *a b*, having the same centres as the large pipes, A and B. These pipes are connected by elbows, so that the air, in passing from the blast engine, through the interior pipe, *b*, spreads itself over the circular space, *c d*, between the pipes B and *b*; passing then into the second interior pipe, *a* is transmitted to the furnace by traversing the second circular space, A. This disposition of double pipes, one within the other, was adopted to remedy a serious inconvenience experienced at Butterly,—an inconvenience incident to pipes of large diameter, in which the air being heated unequally, a current of cool air passes along the centre of the pipe, and renders it impossible to raise the temperature sufficiently.

The pipes, A B, are of cast-iron, thirty inches diameter outside, and one and a half inches thick; the small pipes, *a* and *b*, are of boiler iron, six-tenths of an inch thick, and eighteen inches diameter in the clear. The construction of the furnace is the same as at Butterly—figs. 13 and 14 giving an exact idea of it. The air is heated, by means of this apparatus, to 400° Fahr., with a consumption of 6 cwt. coal.

We have already stated that all the metal made at Codnor Park is made into malleable iron;* this iron is used in the machine shops of Mr. Jessop. It serves equally well for boiler iron for steam engines, which requires the very best metal.

ENVIRONS OF BIRMINGHAM.

The introduction of the hot air blast has scarcely commenced in the Staffordshire iron district, the opinion being still prevalent that the quality of the iron is deteriorated by its use, has retarded the trial of it until within a year past. One work only, near Wednesbury, belonging to Messrs. Lloyd, Forster & Co., uses the heated air. The success attending this experiment determined the proprietors of the other works to make similar trials.

The apparatus employed here is placed above the trunnel head of the furnace, and is the only one at which such an arrangement has been effected in England. It is composed of a solid pyramidal ring, (figs. 15 and 16,) A B C D, and a series of small tubes, *t*, which penetrate into the furnace.

The interior surface of the ring, *a b c d*, is a cast iron cylinder, four feet in diameter, and twelve feet in height, in place of the chimney which usually surmounts the trunnel head of the furnace. The exterior surface of the pyramid is octagonal, and made of boiler plates, riveted together like a steam boiler, its diameter at the middle being six feet; a space is left between the surfaces of one foot on all sides; to protect the outer surface from the cooling action of the air, it is encased in brick-work.

The air, passing from the blast engine, is carried to the top of the furnace, circulates through the pipe, *e e e*, on a level with the top of the furnace, then divides

* This is an error, as large quantities of pipes are cast at this work for the London market.—[Trans.]

Fig. 6.

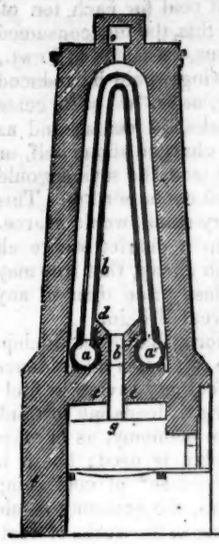


Fig. 7.

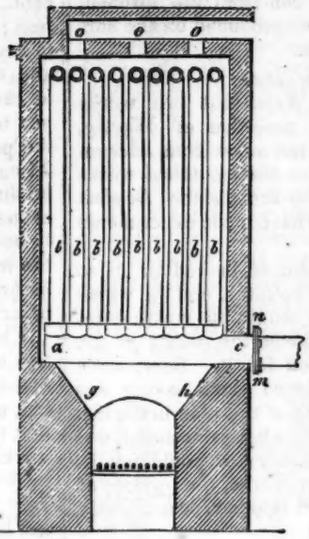


Fig. 8.

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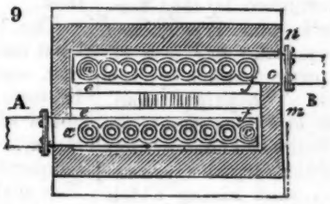


Fig. 12.

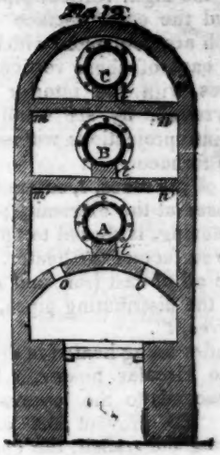


Fig. 12.

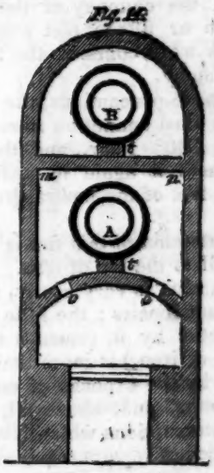


Fig. 11.

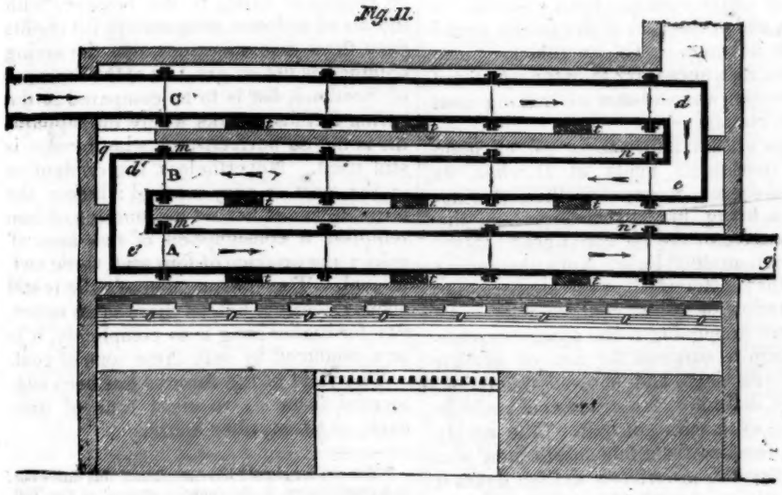


Fig. 15.

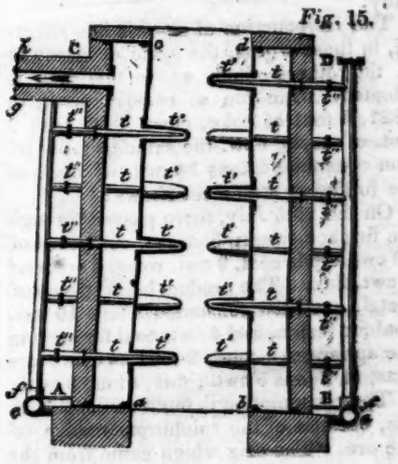


Fig. 13.

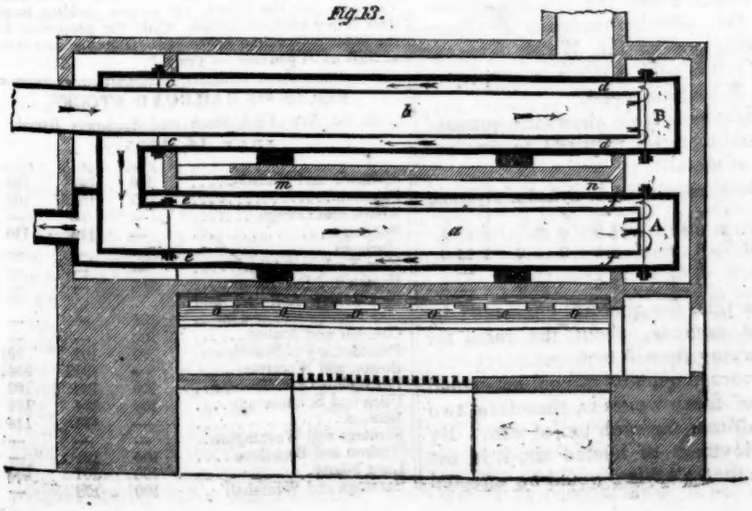
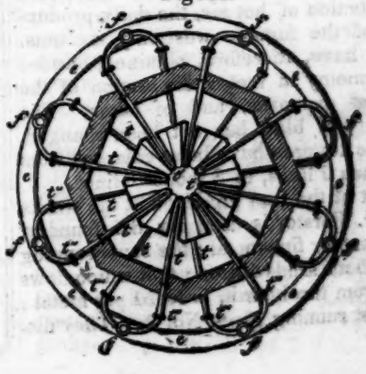


Fig. 16.



itself among the eight vertical pipes, *f g*, placed round the outer surface of the casing, which are connected with the circular pipe; each of these vertical tubes communicates with the interior of the case, or pyramid, by six small tubes, which pass into projections within the interior of the furnace.

The part of the tubes, *t*, enters into the pipes, *t'*, closed at the extremity; so that the air, in moving, is forced to spread itself over the surface of the heater. These tubes, *t'*, are all of cast iron, and are connected with the distributing pipes, *f g*, by leather sleeves, *t''*.

The air, after being heated in the tubes, *t'*, and in the circular heater, A B C D, *a b c d*, re-ascends to the tuyeres by the opening, *v*. To prevent the air from cooling during the transit, the conductor is placed in the chimney of the steam boiler, twelve or fifteen feet distant; a kind of brick-work connects the furnace with this chimney.

With all these precautions, the temperature of the blast cannot be raised higher than to 360° Fahr., and they are obliged to heat it again in a furnace, within a few feet of the embrasure of the furnace.

The consumption of this fire is nearly 4 cwt. of coal to the ton of iron.

This apparatus is very costly, and requires frequent repairs; the little saving of fuel effected by it, (about 3 cwt. of coal per ton of iron,) is more than compensated for by the expense of construction and repairs, and, above all, by the numerous interruptions which take place in consequence of repairs required almost daily.

The introduction of hot air has effected, in these works, the same economy as in the others cited, where this plan is adopted. One ton of iron required, in 1831, 3 tons of coke, equal to 5 tons 9 cwt. of coal; now, the same quantity of iron consumes 2 tons 14 cwt. of coal, as the following statement shows:

On the 20th July, there passed through the furnace twenty charges, composed of 10 cwt. crude coal, 9 cwt. roasted ore, and 6 cwt. flux. The product being 8 tons of metal, each ton consumed 2 tons 10 cwt. coal for fusion, and 4 cwt. coal for heating the apparatus—total, 2 tons 14 cwt.; ore roasted, 2 tons 5 cwt.; flux, 1 ton 10 cwt.

The consumption in flux was considerable, because of the sulphurous nature of the ore. The slag which came from the furnace was crystalline, and gave off very strong sulphurous odors. Before the introduction of hot air, the daily production of the furnace was only six tons. They have, therefore, obtained, besides an economy in fuel, a diminution of the general expenses, and of labor. The quantity of blast has not been changed, but the tuyeres have been enlarged from 2 inches 9 lines, to 3 inches 6 lines.

Part of the iron produced at the works of Mr. Forster is used for the foundry, and part for fine metal; the same running gives both kinds of iron; that which flows first from the hearth, is No. 1 pig metal; the last running gives No. 2. They distinguish the two kinds of iron by the manner in which they run from the furnace, and by the furrows produced on the surface when it cools.

WALES.

There are in Wales but two works using the heated air—that of *Warteg*, and *Blaen-Avon*, ten miles from *Abergaveny*. None of the *Merthyr-tidvyl* works have introduced it, though the *Dowlais* and *Penn-y-danau* have made experiments thereon.

The abandonment of heated air in so extensive an iron country, and in which improvements are sought after with care, has led many to doubt the reality of the advantages claimed for it. Some have thought that, while so much saving was effected by the use of this plan in the furnaces of Scotland, where the metal was destined for the foundry, it could not be employed by other works, the product of which is converted into bar, or malleable, iron.

The examples furnished by the *Newcastle*, *Codnor Park*, and *Wednesbury* works, in which they make bar iron of very good quality, prove that this opinion is not well founded. The partial abandonment of the plan in Wales should, in part, be attributed to the bad construction of their heating apparatus, but more especially to the diminished saving which would result to them, since the employment of crude coal has been effected; a saving which the cost of the patent would almost balance. To appreciate these reasons, it is necessary to enter into some details upon the expense of making iron in that country.

From all the information gained upon the experiments made at Dowlais, or Penn-y-danau, it appears that, the apparatus being of bad construction, the temperature of the air could not be raised to more than 300° Fahr. Notwithstanding this, they attempted, with success, the substitution of crude coal for coke. An accident happening to the apparatus, obliged them to suspend the use of hot air for several days, and showed them that, without difficulty, the crude coal could be worked even with cold air. The saving which resulted from this substitution was such, that the proprietors did not deem it worth while to repair the heating apparatus, and thenceforth abandoned it. Since that period, most of the Welsh furnaces use the crude coal, but some employ a mixture of coal and coke.

The following table shows the quantity of fuel and material required to produce one ton of metal.

	Penn-y-danau.			Dowlais.			Cyfartha.			Plymouth.		
	t.	*c.*	*q.*	*t.*	*c.*	*q.*	*t.*	*c.*	*q.*	*t.*	*c.*	*q.*
Coal, . . .	2	9	0	2	14	0	2	13	2	2	13	0
Ore roasted,	2	4	0	2	9	0	2	6	2	1	16	0
Ashes, . . .		2	2	—			—			—		
Flux, . . .		19	2		13	0		16	0	—		

Add to this, the quantity consumed by the blast engines, about the same for each, varying from 5 to 6 cwt.

The average quantity of coal consumed in each of these works is, therefore, two and a half tons for each ton of iron. By the employment of heated air, it is not probable that a saving would be effected over this expense of more than 33½ per cent., or 17 cwt. of coal for each ton of iron; deduct from this, the fuel consumed to heat the apparatus, estimated at 6 cwt., and the actual saving would be reduced to 11 cwt., costing, at 3*s.* 7*d.*, or 86 cents per ton, at the works, 44 cents; and as the patent right is charged at one half, or 24 cents per ton of iron, the saving would be diminished to 20 cents per ton. This economy, itself very small, would scarcely be appreciated in a district where all the materials are so cheap, that iron may be produced at a less price than in any other district in Great Britain.

I believe, therefore, that the non-adoption of this plan in Wales, is no evidence that it does not effect any saving in fuel; but, on the contrary, it leads me to think that there would be economy, as in other works where the plan is used; but it is evident that, the expense* of coal being very small in Wales, the economy would not be as marked as in the works of Scotland.

The *Warteg Iron Works*, which have been named at the beginning of this section, sustain this opinion. In this establishment, the heating apparatus is composed of a very short developement of pipes, so that the air cannot acquire a temperature of more than 400° Fahr. The coal, which is very bituminous, and loses 55° per 100 in the coking, cannot be employed crude in the furnace, with the air at so low a temperature; it results from these circumstances, that the saving obtained is not so great as at the furnaces of Scotland, but is to be compared to the saving in those works where the apparatus is not so perfect, and where coke is still used. Nevertheless, the diminution in the cost is very marked: before the introduction of heated air, one ton of iron required a consumption of two tons of coke; the produce of four tons, three cwt. of coal. The consumption of coke is still about the same, but, as there is no necessity for carbonizing it so completely, it is now produced by only three tons of coal.

The yield of the furnace has been augmented from six to eight tons of iron, each, in twenty-four hours.

* The author should have attributed this difference, in a great degree, to the superior quality of the Taff Vale coal over the Scotch, the former yielding more than 75 per cent. of carbon, while the proportion in the latter is less than 65 per cent.; some varieties even as little as 51 per cent.—[Trans.]

PRICES OF RAILROAD STOCKS,

At the New-York Stock and Exchange Board,

JULY 16, 1835.

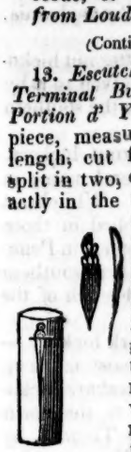
	Par.	*Ask.*	*Offer.*
Mohawk and Hudson.....	100	121	120
Paterson.....	95	106	106
Ithaca and Owego.....	—	—	—
Saratoga.....	—	110	110
Harlaem.....	—	—	—
New-York and Albany....	—	—	—
Boston and Providence....	100	—	—
New-Jersey Railroad and Transportation Line...	100	—	—
Camden and Amboy.....	100	—	—
Providence and Stonington.	100	100	99½
Boston and Worcester.....	—	104¾	104½
Philadelphia and Trenton..	100	102	102
Utica and Schenectady....	100	124	124
Jamaica.....	—	114	113
Saratoga and Washington..	—	—	—
Hudson and Berkshire	100	101	—
Long Island.....	100	101	100
Saratoga and Whitehall ...	100	108	—

AGRICULTURE, &c.

On Budding Trees and Shrubs. By the CONDUCTORS. *To which is added, the different modes of Budding; and of Herbaceous, or Summer Grafting, extracted from Loudon's Gardener's Magazine.*

(Continued from our last number.)

13. *Escutcheon Budding, with a Portion of Terminal Buds; Greffe en Ecusson par Portion d' Yeux terminaux,* (*fig.* 10.)—A piece, measuring six or eight lines in length, cut from the top of a branch, is split in two, dividing the terminal bud exactly in the middle. An incision is then made in the stock in the form of a T, and the half bud is inserted into it in the usual manner. In case of need, the terminal eye might be divided into four equal parts. The growing bud ought to be used to insure success, though this mode will sometimes succeed with a dormant bud. This method may be very useful, if the tree to be propagated has no young side shoots strong enough to admit of a bud being taken from them. It is particularly suitable for rare trees, with scaly buds and opposite branches.

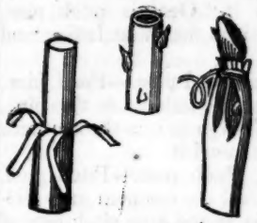


14. *Annular Flute Budding; Greffe en Flute en Anneau,* (*fig.* 11.)—A branch is chosen on the tree which is to be propagated, as thick as, or thicker than, the stock, and a ring of bark, including an eye, is cut from it, and detached by splitting it perpendicularly on one side, and then separating it from the wood by inserting under it the spatula-like handle of the budding-knife. A similar operation is then performed on the stock; that is to say, a ring of bark, exactly of the same size, is detached from the stem in the same manner, but without caring whether there are buds on it or not. In its place is put the ring taken from the branch to be propagated, with the precaution of making the inner barks join together exactly both at top and bottom. No binding is applied; but the whole is covered with grafting-clay (*onguent de St. Fiacre*) or grafting-wax. Neither the branches nor the head of the stock are to be cut down till the bud has taken. The two periods most favorable for this sort of budding are, the time of the greatest movement of the sap in the spring, and at the end of its greatest movement in August. This mode of budding has the advantage of never mutilating the stock; because, if it does not take, the bark of the ring supplies the place of that taken away. It is not only suitable for the propagation of walnut trees, but also for the increase of all rare trees with hard wood, such as the American oaks and chesnuts.

15. *Split Flute Budding; Greffe en Flute fendue.*—The only difference between this and the preceding mode is, that, if the ring of bark containing the bud is larger than the space prepared for it on the stock, a piece must be taken from it longitudinally, so as to make it fit exactly.

16. *Flute Budding by close Contact, Tube Budding; Greffe en Flute par Juxtaposition, ou en Sifflet.*—The head of the stock being cut off, a ring of bark, 2 in. or 3 in. long, is removed. A shoot is then taken from the tree to be increased, of exactly the same thickness as the stock, and a ring or tube of bark is taken off the thick end, without being split longitudinally, not quite so long as the piece of bark taken off the stock, but provided with two or three good eyes. The tube thus formed is placed upon the stock in the room of the one taken away, and care is taken to make the two edges of bark join below. The part of the stock which projects over the ring of bark is next split into shreds, and brought down over it all round, so as, when secured by grafting-clay, to keep it in its place. This mode of budding is chiefly employed in the south of France for propagating walnuts, chesnuts, figs, mulberries, and other trees with thick bark and abundant pith.

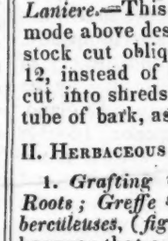
17. *Common Flute Budding; Greffe en Flute ordinaire,* (*fig.* 12.)—The head of the stock is cut off; but, instead of removing a ring of bark, as in the preceding mode, it is cut longitudinally into four or five strips, each 2 in. or 3 inches long, and turned down as in the figure, being left still attached to the tree. From a shoot of the tree to be propagated, a tube of bark is taken, furnished with four or five eyes, rather shorter than the strips, though longer than in tube budding. When the tube of the scion is slipped on the stock, the strips of bark are raised over it, and fastened at the top by a ligature. This method of budding is in very general use both in France and Germany.



18. *Flute Budding in Shreds, with the Stock cut obliquely; Greffe en Flute et en Laniere.*—This is nothing more than the mode above described, with the end of the stock cut obliquely, as shown at *a* in fig. 12, instead of being left to be afterwards cut into shreds and turned down over the tube of bark, as in tube budding, No. 16.

II. HERBACEOUS GRAFTING. *Greffe Herbacee.*

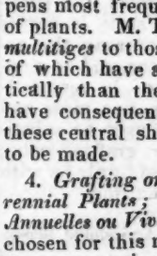
1. *Grafting upon fleshy or tuberculous Roots; Greffe sur Racines chranues ou tuberculeuses,* (*fig.* 13.)—It not unfrequently happens that a tubercle of a georgina root is found without eyes; and, when this is the case, notwithstanding all the care of the cultivator, it may remain in the ground one or two years without budding, till at last it rots. This imperfection is easily discovered if the neck of the tuber is looked at attentively, for it is always there that the buds are found. In this case, as soon as a georgina bud upon some other tuber has begun to germinate, it is picked out with the point of the grafting-knife, and is taken away with a small piece of the tubercle adhering to it. On the neck of the barren tubercle a small hole is made, in which the bud is inserted, but in such a manner as that the base of the bud shall be perfectly on a level with the surface of the tubercle; and it is cemented with grafting-wax. The tubercle is then planted in a pot, taking care not to cover the neck on which the graft is, and the pot is plunged in a hot-bed, under glass. When the graft has taken properly, the plant is turned out into the open border.



2. *Herbaceous Furrow-Grafting for vertical Shoots; Greffe herbacee en Rainure pour les Omnitiges,* (*fig.* 14.)—A bud with a triangular slice of bark and wood, when in a soft or herbaceous state, is cut out of the scion, and inserted in a corresponding groove made in the stock, as shown in the figure; a ligature is applied, and afterwards grafting-wax. This mode of grafting succeeds both with the young wood of trees and with herbaceous plants, whether peren n or annual. M. Tschoudy gave the ara, trary name of *omnitiges* to those plants, c the shoots of which have an equal tenden ll upwards, and which, of course, are a equally suitable to graft upon.

3. *Herbaceous Grafting for Shoots with opposite Leaves; Greffe herbacee pour les Bourgeons a Feuilles opposees,* (*fig.* 15.)—In the middle of the stem, between two opposite eyes, an angular and longitudinal incision is made, traversing the stem from one side to the other. The graft is cut angularly at its top and bottom, and it is inserted as in the figure. The binding, &c., is then put on as usual. This mode of grafting is suitable for those species of trees, and annual or perennial plants, the buds of which are opposite on the stem, which happens most frequently on the central shoots of plants. M. Tschoudy gives the name of *multitiges* to those plants, the central shoots of which have a tendency to rise more vertically than the lateral ones, and which have consequently more vigor; it is upon these central shoots that the grafts ought to be made.

4. *Grafting on the Stem of Annual or Perennial Plants; Greffe sur Tige de Plantes Annuelles ou Vivaces,* (*fig.* 16.)—The period chosen for this mode of grafting is that of the greatest vigor of the plant, that is, some days before its going into flower. The stem of the stock is cut through above a leaf, as near as possible to its petiole, and a slit downwards is made in the section. A shoot is then taken off near the root of the plant to be increased, the end of which is cut into a wedge shape, and is inserted in the slip made in the stock, taking great care of the leaf on the latter; for it is that which must nourish the scion until it has taken thoroughly, by keeping up the circulation of the sap. A bandage is applied, and the junction covered with grafting-wax, as before. When the graft has taken, which is ascertained by its growth, the ligature is removed, and the old leaf, and the shoots from the stock below the graft, are removed. M. Tschoudy grafted in this manner artichokes upon cardoons, and other plants on their congeners.



5. *Grafting on Succulents; Greffe des Plantes Grasses,* (*fig.* 17.)—Take a young shoot or leaf of a succulent plant, (i. e., of a cactus or opuntia,) and, cutting its base to a point or wedge, insert it in a hole or slit made in the stem or leaf of another species, but of the same genus.

6. *Grafting the Melon; Greffe du Melon,* (*fig.* 18.)—On the stem of a cucumber, or any other plant of the family of Cucurbitaceæ, but having some analogy with the melon, choose a vigorous part of a shoot having a well-developed leaf. In the axil of this leaf an oblique cut is made, of half its thickness. The point of a melon shoot, so far developed as to have its fruit quite formed, is then cut off, and pointed at its end, 2 inches below the fruit. It is inserted in the cleft made in the stock, always taking care to spare the leaf until the scion has taken. The remaining part of the operation is performed in the usual manner, with ligatures and grafting-wax. This mode of grafting succeeds pretty well; but it has not hitherto been applied to any useful end. Tomatoes may be grafted in this manner on potatoes, and it is said that potato plants thus treated produce good crops both of potatoes and tomatoes.

Grafting-wax may be formed with turpentine, bees' wax, resin, and a little tallow, melted together. It may either be put on in the same manner as grafting-clay, but not more than a quarter of an inch in thickness; or it may be very thinly spread upon cotton cloth, and used in shreds like sticking-plaster. In this last state it serves both as a ligature for retaining the escutcheon or scion in its place, and as a covering for excluding the air. In very delicate budding and grafting, fine moss and cotton wool are frequently used as substitutes for grafting-clay or grafting-wax; the moss or cotton being tied firmly on with thread or strands of bast matting.

[Extract from the Massachusetts Agricultural Repository, &c.]

List of the Forest Trees of America, described in the work of M. Andre F. Michaux.

[The botanical name of each tree is first given, followed by the most common American name. The *vulgar names* used in various parts of the United States, or Canada, next follow.]

Pinus rubra, Red pine.—Red pine, only name given to this tree in Canada; often used in Nova Scotia and New Brunswick, and in Maine. Norway pine, name more generally in use for this tree than the above, in the district of Maine, New-Hampshire, and Vermont, but less proper. It is not the Norway pine, says Michaux. Yellow pine, name sometimes given to it in Nova Scotia. Pin rouge, or red pine in Canada. Michaux prefers red pine, as being more characteristic and distinct.

Pinus rupestris, Gray pine.—Gray pine, in Canada, by the French and English. Scrub pine, in Nova Scotia and Maine. Uncommon and ordinary. Michaux.

Pinus mitis, Yellow pine.—Yellow pine, general name in all the middle states. Short-leaved pine, in the southern states. Spruce pine, a secondary name in these last mentioned states.

This is described by Michaux as a pretty valuable tree, ranking after the red pine, which is again put far behind the long-leaved or pitch pine of the south, and the white pine of the north.

Pinus inops, Jersey pine.—Jersey pine, general name in New-Jersey, where it abounds. Scrub pine, the name given to it in Virginia, and in those parts of Pennsylvania where it is found.

Pinus pungens, Table-mountain pine.—Table-mountain pine, the only name given to it in the neighborhood of that mountain, in North Carolina.

Pinus australis, Long-leaved pine.—Yellow pine. Long-leaved pine. Pitch pine, (not the pitch pine of the north.) Broom pine. All which names are more or less used in the lower parts of the southern states, where alone this tree grows. Southern pine and red pine, are the names given to it in the middle and northern states, by those who use it. Georgia pitch pine, name given to it in the West Indies, and in England.

Pinus serotina, Pond pine.—Pond pine, name given by M. Michaux to this pine, which has none given to it in the southern states, where he found it.

Pinus rigida, Pitch pine.—Pitch pine, general name in all the northern and middle states. This is the true pitch pine of New-England, but very different from the pitch pine of the south.

Pinus tæda, Loblolly pine.—Loblolly pine, only name in the southern states. White pine, sometimes so called in the neighborhood of Petersburg, Virginia.

Pinus strobus, White pine.—White pine, only name given to this tree in the greater part of the United States, and in Nova Scotia and New-Brunswick. Pumpkin pine and sapling pine, names sometimes given to it in Vermont, New-Hampshire, and Maine, in reference to the quality of its wood. Pin blanc, or white pine, by the Canadians. Weymouth pine, in England.

Abies nigra, Black spruce, (double spruce.)—Black, or double spruce, name used in the northern states, in Maine, and Nova Scotia. Red spruce, in the same countries, having regard, however, to trees of larger size than usual, or to certain places of growth. Epinette noire, in Canada. Sapinette noire, in France.

Abies alba, White spruce.—White, or single spruce, names applied in the northern states, and in Nova Scotia. Epinette blanche, in Canada. Sapinette blanche, in France.

Abies canadensis, Hemlock spruce.—Hemlock, or hemlock spruce, only denomination in use in all parts of the United States, where this tree is found. Perusse, by the Canadians.

Abies balsamifera, Silver fir.—Silver fir. Fir balsam. Balm of Gilead. All names equally applied to this tree in the northern parts of the United States.

Juglans nigra, Black walnut.—Black walnut, only name in the southern and western states. Noyer noir, by the French of Canada and Louisiana.

Juglans cathartica, Butter nut.—Butter nut, only name in New-York, and Virginia, and often applied in the northern states. White walnut, name much in use in Pennsylvania and Maryland. Oil nut, name applied in New-Hampshire, Massachusetts, Vermont, and Connecticut.

Juglans olivæ-formis, Pacane nut.—Pacane nut, or pacanier, name given to this tree by the French of Louisiana, and adopted by the Americans.

Juglans amara, Bitter nut hickory.—Bitter nut hickory, only name applied to it in New-York and New-Jersey. White hickory, general name in Pennsylvania. Noyer amer, Canadian name.

Juglans aquatica, Water bitter nut hickory.—Water bitter nut, name given to it by Michaux. It has no name in the southern states, where it grows.

Juglans tomentosa, Mockernut hickory.—Mockernut hickory, general name in New-York and New-Jersey. Whiteheart hickory, name sometimes applied in those states. Common hickory, applied in Pennsylvania, Maryland, and other southern states. Noyer dur, by the French of the Illinois country.

Juglans squamosa, Shellbark hickory.—Shellbark hickory, name in most common use in the United States. Shagbark hickory, name sometimes applied to the north of Connecticut river. Kisky Thomas, by the Dutch of New-Jersey. Noyer tendre, by the French of Illinois.

We think M. Michaux mistaken on this point. It is the common walnut of our tables, and is almost universally called shagbark. In all the northern states, we know this tree by the name of walnut, and not hickory, which is a southern name.

Juglans laciniosa, Thick shellbark hickory.—Thick shellbark hickory, name given to this tree in the western states, where it is confounded with the true shell, or shagbark. Gloucester-nut hickory, known under this name only in that part of Virginia. Springfield hickory, another name given to this tree in the vicinity of Philadelphia.

Juglans porcina, Pignut hickory.—Pignut hickory, most common name in all parts of the United States. Hognut hickory, more usual name in some districts of Pennsylvania.

Juglans myristicæformis, Nutmeg hickory-nut.—Nutmeg hickory-nut, name given to it by M. Michaux, it having no name in the southern states.

Quercus alba, White oak.—White oak, general and unique name throughout the United States. Cheneblanc, by the Canadians.

Quercus muscosa, Mossy cup oak.—Mossy cup oak, name given by M. Michaux to a species found in the Genessee country, and near Albany.

Quercus macrocarpa, Overcup white oak.—Overcup white oak, general name given to it in Kentucky and Tennessee.

Quercus obtusiloba, Post oak.—Post oak, general name in both Carolinas, Georgia, and Tennessee. Iron oak, secondary name in those countries. Box oak and box white oak, name given to it in Maryland, and the parts of Virginia bordering on it.

Quercus lyrata, Overcup oak.—Overcup oak and swamp-post oak, names equally used in the lower parts of the southern states. Water white oak, secondary name in the same places.

Quercus prinus discolor, Swamp white oak.—Swamp white oak, most common name in the northern and middle states. Water-chestnut oak, Pennsylvania name.

Quercus prinusp alustris, Chestnut white oak.—Chestnut white oak, name applied in the lower parts of Georgia, and the Carolinas. White oak, peculiarly so called on the Savannah river. Swamp-chestnut oak, secondary name in the same places.

Quercus prinus monticola, Rock-chestnut oak.—Rock-chestnut oak, only name given to this tree in New-York and Vermont. Rock and rocky oak, second name in the same countries. Chestnut oak, in Pennsylvania and Virginia.

Quercus prinus acuminata, Yellow oak.—Yellow oak, name given to this tree in the county of Lancaster, Pennsylvania. No particular name given to it in other parts of the United States.

Quercus prinus chinquapin, Chinquapin oak.—Chinquapin oak, name employed in the upper parts of Georgia and the Carolinas. Small-chestnut oak, in New-York and Pennsylvania.

Quercus virens, Live oak.—Live oak, only name in all the southern states; and also in the northern states, where the wood is only seen, but the tree is never found.

Quercus phellos, Willow oak.—Willow oak, only name in the southern states, and in Pennsylvania.

Quercus imbricaria, Laurel oak.—Laurel oak, secondary name in the states west of the Allegany mountains. Black-jack oak, more common, but less proper name, because it is applied to another, for which it is kept distinct. Chene a latte, by the Illinois French.

Quercus cinerea, Upland willow oak.—Barren's willow oak, name given in the lower parts of the southern states.

Quercus pumila, Running oak.—Running oak, in the lower parts of the southern states.

Quercus heterophylla, Bartram's oak.—Bartram's oak, name given to an oak on the Schuylkill, near Philadelphia.

Quercus aquatica, Water oak.—Water oak, general name in Virginia, and in the southern states.

Quercus ferruginea, Black-jack oak.—Black-jack oak, name in use in the southern states. Barren's oak, name employed in Pennsylvania, New-Jersey, and Delaware.

Quercus banisteri, Bear oak. — Bear oak, name in New-Jersey and New-York. Black scrub oak, name used in the north of Connecticut river. Scrub oak, in some parts of Pennsylvania and Virginia.

Quercus catisbœi, Barren's scrub oak.—Barren's scrub oak, in the lower parts of the two Carolinas and Georgia.

Quercus falcata, Spanish oak.—Spanish oak, only name in use in Pennsylvania, Maryland, and Virginia. Red oak, in the lower parts of the southern states.

Quercus tinctoria, Black oak. — Black oak, only name in the forests of the middle, western, and southern states. Quercitron oak, name in commerce. Chene noir, by the Illinois French.

Quercus coccinea, Scarlet oak.—Scarlet oak, name given by M. Michaux to a tree, which, in the middle states, bears the name of red oak, being confounded with a species hereafter mentioned.

Quercus ambigua, Gray oak. — Gray oak, only name given to this species in New-Hampshire and Vermont, as well as in the district of Maine, New-Brunswick, and Nova Scotia.

Quercus palustris, Pine oak. — Pine oak, name given to this species in New-York and New-Jersey. Swamp Spanish oak, in Pennsylvania and Maryland.

Quercus rubra, Red oak. — Red oak, name given to this oak in all the northern and middle states.

In all 27 species of oaks.

Betula papyracea, Canoe birch.—Canoe and paper birch, names equally used in New-Hampshire, Vermont, district of Maine, Nova Scotia, and further north. White birch, name also equally applied in the same countries. Bouleau a canot, by the French in Canada.

Betula populifolia, White birch.—White birch, general name in the northern and middle states. Old-field birch.

Betula rubra, Red birch.—Red birch, so called in New-Jersey and some parts of Pennsylvania. Broom birch, secondary name in Pennsylvania. Birch, in the southern states.

Betula lenta, Black birch.—Black birch, denomination applied to it in the northern and middle states. Cherry birch, secondary name in some parts of the northern states. Sweet birch, in the middle states. Mountain mahogany, in a part of Virginia. Cherry birch. Bouleau cerisier, by the Canadians.

Betula lutea, Yellow birch. — Yellow birch, name given to this species in Vermont and New-Hampshire, as well as in Maine and New-Brunswick.

Castanea vesca, Chestnut. — Chestnut, only name given to it in all parts of the United States where it grows.

Castanea pumila, Chincapin.—Chincapin, only denomination given to it in the middle, southern, and western states.

Fagus sylvestris, White beech.—Beech, in the middle and southern states. White beech, in the northern states and district of Maine.

Fagus ferruginea, Red beech. — Red beech, in the northern states, and district of Maine.

Chamærops palmeto, Cabbage tree.—Cabbage tree, or palmetto, in the southern states. This tree is extensively used in the construction of wharves in Charleston, South Carolina, being free from the ravages of the worms.

Ilex opaca, American holly.—American holly, so called in all the parts of the United States where it grows.

Diospiros virginiana, Persimmon tree.—Persimmon, only name in those parts of the United States where it is found, being in the middle and southern states. Plaqueminier, by the Louisianians.

Acer eriocarpum, White maple.—White maple, only name on the borders of the Ohio, and the rivers which fall into it. Soft maple, in the Atlantic states, where it is often confounded with the scarlet maple. Sir wager maple, name applied to it in England, where it has been introduced.

Acer rubrum, Red-flowering maple.—Red-flowering maple, Swamp maple, Soft maple, denominations in the Atlantic states. Scarlet-flowering maple, principally in Virginia, and soft maple in New-York and New-Jersey. Maple tree, in Pennsylvania, Virginia, and Ohio, to the west of the Allegany mountains. Erable plaine, by the Canadians.

Acer saccharinum, Sugar maple.—Sugar maple, general name, which, however, prevails only in the middle states, to the east of the mountains. Rock maple, name which prevails to the north of the Hudson river. Hard maple, another name in the northern states. Erable sucre', Canadian name.

Acer nigrum, Black sugar maple.—Sugar tree, general name in the country on the Ohio, and the Rivers which fall into it; and often applied also there to the last mentioned species. Black sugar tree, name sometimes applied, and to be preferred.

Acer negundo, Box elder.—Box elder, only name in the western states where the tree is most known. Ash-leaved maple, name given sometimes in the Atlantic states. Erable a giguiere, by the Illinois French.

Acer striatum, Moose wood.—Moose wood, common name in all the northern states, in New-Brunswick, and Nova Scotia. Striped maple, by some persons in the middle states.

Nyssa grandidentata, Large tupelo.—Large tupelo, most general name in the southern states. Water tupelo, secondary name in the same states.

Nyssa capitata, Sour tupelo.—Sour tupelo, in Georgia.

Nyssa sylvatica, Black gum.—Black gum tree, in all the states to the south of the Delaware. Sour gum, secondary name in the same states. Peperidge, by the Dutch of New-Jersey.

Gymnocladus dioica, Coffee tree.—Coffee tree, only name given in the western states. Chicot, by the Canadians. By some botanists called guilandina dioica.

Pinckneya pubens, Georgia bark.—Georgia bark tree, name given by M. Michaux; it is known by no name in that country.

Cupressus disticha, Cypress.—Cypress, general name in the United States. It is not known at all in the northern states, except in modern plantations, and there called deciduous cypress. Bald cypress, name less used. Black or white cypress, having regard to the color of the wood.

Cupressus thuyoides, White cedar.—White cedar, only name in the states of New-York, New-Jersey, Delaware, and Pennsylvania. Juniper, in Maryland, Virginia, and North Carolina.

Thuya occidentalis, Arbor vitæ.—Arbor vitæ, secondary name in the District of Maine. White cedar, name more used in Maine, Vermont, and New-Hampshire. Cedreblanc, by the Canadians.

Larix americana, American larch.—American larch, general name given to this tree in all parts of the United States where it grows. Hackmatack, more used in the north, and in the district of Maine. Tamarach, by the Dutch of New-Jersey.

N. B.—This tree is very seldom called by the name of larch in New-England, and in some districts it is called Juniper.

(To be continued.)

NEW-YORK AMERICAN.

JULY 11—17, 1835.

LITERARY NOTICES.

THE PRIMITIVE CHURCH compared with the Protestant Episcopal Church of the present day, &c. &c. By JOHN HENRY HOPKINS, D. D., Bishop of Vermont. 1 vol. *Burlington—Smith & Harrington.*

Episcopalians will receive this book with gratitude, for it ably and clearly vindicates the doctrine, worship and government of the Episcopal Church in this country, and satisfactorily meets, and refutes, the popular objections against it.

To Bishop Hopkin's book must be conceded, we apprehend, the merit of a clear and popular style, of an earnest spirit, of close argument, and, as i strikes us, of clear demonstration.

DANGER OF BEING OVERWISE, a Sermon preached 7th June, 1835, in the Second Presbyterian Church of Albany, by WM. B. SPRAGUE, D. D.: Albany PACKARD & VAN BENTHUYSEN.—This is a bold sermon—an odd epithet it may be said to apply to a discourse from the pulpit—yet in this instance a just one. It is an act of great moral courage, under the circumstances in which we live, for a clergyman of the Presbyterian Church especially, thus to come forth, and breast the *intemperate* zeal, with which the good and noble cause of temperance is sometimes urged on. Mr. Sprague, however, under a strong sense of duty, and let us add under an act, as we have heard it related, of great provocation, has done this, and done it well.

BELFORD REGIS, or sketches of a county town by MARY RUSSELL MITFORD; 2 vols: Phila., CAREY, LEA & BLANCHARD.

Miss Mitford in this new work has enlarged her sphere of action, and passed from "our village" to a busy bustling market and county town—with all its characters, and peculiarities, and memories. She loses nothing of freshness or force in this series, as the following extract may in part testify. It is of past times—when the plague was desolating London, and *Belford Regis*, and its neighboring villages had caught the infection from city fugitives. "*Master Anthony*"—had brought up *Rosamond* with doating fondness, which she had requited, by running off against his will, with a young Court gallant, and no intercourse had taken place between them until the moment of the scene we quote, when "Master Anthony" after exhausting himself in attending upon the deserted and the dying, is, in his own hour of need and danger, robbed and abandoned.

THE MONIKINS: edited by the author of the "SPY"—2 vols: Phila., CAREY, LEA & BLANCHARD.—Of the multitude of persons into whose hands this new work of Mr. Cooper may fall, we doubt if more than one in fifty will achieve what we have, the actual perusal of the two mortal volumes. We have as a matter of duty and conscience, read page by page their some 500 pp. with all attention—save when failing nature gave way under the effort, and words upon words passed before the eye, but reached not the understanding. A more lamentable failure than this book—from the hand of an established and practised writer—the annals of literature do not, we apprehend record.

So far as we can comprehend the scope of the story, it is to ridicule and satirize mankind at large, by a clumsy contrivance of a monkey land, and monkey inhabitants, where, and among whom, the vices, pretensions, prejudices and follies which disturb and degrade man, are in full operation.

After the travels of Capt Lemuel Gulliver, this were a dangerous experiment, even to a writer eminently gifted with humor, but of this gift the author of the Spy, has but little share, and instead, therefore, of the the fine irony, and sparkling satire, and strong and admirable contrasts to be found in the pages of Swift, we have dull and prosing dissertations about theogony, cosmogony, law, politics, education, paper currency, the removal of the deposites, aristocracy, democracy, the Godlike, &c. &c., with a sprinkling of nastiness (in that alone, resembling Swift,) about monkey's tails, and the place where men should have them—which altogether defy criticism, and will, we think, very thoroughly and soon disenchant all readers.

The story, so far as there is one, is shortly this A rich old stock-broker dying, leaves as the sole heir to his immense wealth, a foundling, whom he had adopted and called his own—a goodly blockhead, who sets forth in the world immediately, to give pledges to fortune as Bacon has it, not by marrying the woman of his affection, for that, our philosopher argues, would be idolatry, but by taking an interest in all the pursuits of all mankind.—Wandering about with this chimerical design, he meets in Paris, Capt. *Noah Poke*, of Stonington, a Yankee Sealer. They become sworn friends, rescue four monkeys, exhibiting by some Savoyards, and are rewarded for their humanity, by learning from the gravest and eldest of the interesting beings they had emancipated, that he is a learned Doctor from the Academy of Monikinia, in Monkey land, travelling with two young nobles of his nation, who are betrothed to each other, that his female companion is the young lady's duenna, and that they had all been ingloriously kidnapped, and forced to dance for their living. All this being communicated in good French—though spoken with a slight Russian accent—a great intimacy ensues between the parties, which results in the English *Golden Calf*, fitting out a ship under the command of Capt. Poke, to re-convey these ill treated innocents of the genus *Simiar*, to their native land.—Thither, too, goes Golden Calf, and after innumerable perils and difficulties in penetrating the ice, around the southern pole, they reach the desired land, and there occur the wonderful dissertations to which we have alluded.

MATTHIAS AND HIS IMPOSTURES, or the Progress of Fanaticism, &c. &c., by WM. L. STONE, 1 vol. N. Y., HARPER & BROTHERS.

Poor human nature! What a picture does this very curious, and as we do not doubt authentic, volume, present of the boasted intellect of man; what a stinging satire does it hold forth, of the vaunted advance of education, of sound and liberal views, of the progress of reason, and of the growth of genuine religion. A miserable, ignorant, brutal, selfish, and overbearing impostor subjects to his will, whole families of educated people, and lords it over them in sickness and in health, with unbridled insolence, giving himself out as God, and as such received!

But the imposture of Matthias is not the only one here recorded, for it was preceded and prepared, it seems, by fanatical meetings and assemblages held constantly for many preceding years—where all sorts of delusions prevailed. If only as a warning against fanaticism, this book should be generally read.

THE COMPLETE POETICAL WORKS OF WALTER SCOTT. 1 vol. 8vo. New York. CONNER & COOKE.—This is an exceedingly handsome and well finished volume, containing *Sir Walter's* Poems, lyrical as well as others, with copious notes and explanations. It is very creditable to the publishers, and may, we hope, be profitable.

SPECIMENS OF THE TABLE TALK OF THE LATE SAM'L T. COLERIDGE. Two volumes in one. N. York. HARPER & BROTHERS.—We have only time to acknowledge the reception of this work, and to say, what we are sure, a future perusal of it will verify, that if it retain any portion of the spirit of the talk of the most gifted talker of the age, it must be a book of deep interest and attraction. We have read with pleasure and conviction, the well deserved castigation bestowed by the Editor, on the inconceivable base notices of Coleridge, published in Tait's Magazine, by the English opium eater.

[*From the Athenæum.*]

Mrs. Hemans.

Felicia Dorothea Browne was born in Liverpool, in a small quaint-looking house in St. Anne street, now standing, old fashioned and desolate, in the midst of the newer buildings by which it is surrounded. Her father was a native of Ireland, her mother a German lady—a Miss Wagner—but descended from, or connected with, some Venetian family, a circumstance which she would playfully mention, as accounting for the strong tinge of romance and poetry which pervaded her character from her earliest childhood. Our abstaining from any attempt minutely to trace her history, requires no apology—it is enough to say, that when she was very young, her family removed from Liverpool to the neighborhood of St. Asaph, in North Wales; that she married at a very early age—that her married life, after the birth of five sons, was clouded by the estrangement of her husband—that, on the death of her mother, with whom she had resided, she broke up her establishment in Wales, and removed to Wavertree, in the neighborhood of Liverpool—from whence, after a residence of about three years, she again removed to Dublin,—her last resting place.

But though respect for the memory of the dead, and delicacy towards the living, enjoin us to be brief in alluding to the events of her life, we may speak freely, and at length, of the history of her mind, and of the circumstances of her literary career, in the course of which she deserved and acquired a European reputation as the first of our poetesses living, and still before the public. Few have written so much, or written so well as Mrs. Hemans; few have entwined the genuine fresh thoughts and impressions of their own minds, so intimately with their poetical fancies, as she did; few have undergone more arduous and reverential preparation for the service of song; for, from childhood, her thirst for knowledge was extreme, and her reading great and varied. Those who, while admitting the high-toned beauty of her poetry, accused it of monotony of style and subject (they could not deny to it the praise of originality, seeing that it founded a school of imitators in England, and a larger one in America) little knew to what historical research she had applied herself—how far and wide she had sought for food with which to fill her eager mind. It is true, that she only used a part of the mass of information which she had collected—for she never wrote on calculation, but from the strong impulse of the moment, and it was her nature intimately to take home to herself and appropriate only what was high-hearted, imaginative, and refined; but the writer of this hasty notice has seen manuscript collections of extracts made in the course of these youthful studies, sufficient of themselves to justify his assertion; if her poems (like those of every genuine poet) did not contain a still better record of the progress of her mind. Her knowledge of classic literature may be distinctly traced in her "Sceptic," her "Modern Greece," and a hundred later lyrics based upon what Bulwer so happily calls "the Graceful Superstition." Her study and admiration of the works of ancient Greek and Roman art, strengthened into an abiding love of the beautiful, which breathes both in the sentiment and structure of every line she wrote (for there are few of our poets more faultlessly musical in their versification;) and when, subsequently, she opened for herself the treasuries of Spanish and German legend and literature, how thoroughly she had imbued herself with their spirit may be seen in her "Siege of Valencia," in her glorious and chivalresque "Songs of the Cid," and in her "Lays of Many Lands," the idea of which was suggested by Herder's "Stimmen der Volker in Liedern."

But though her mind was enriched by her wide

acquaintance with the poetical and historical literature of other countries, it possessed a strong and decidedly marked character of its own, which colored all her productions—a character which, though any thing but feeble or sentimental, was essentially feminine. An eloquent modern critic (Mrs. Jameson) has rightly said, "that Mrs. Hemans' poems could not have been written by a man; their love is without selfishness, their passion without a stain of this world's coarseness, their high heroism (and to illustrate this assertion we would mention "Clotilda, the Lady of Provence," and the "Switzer's Wife,") unsullied by any grosser alloy of mean ambition. Her religion, too, is essentially womanly, fervent, clinging to belief, and, "hoping on, hoping ever," in spite of the peculiar trials appointed to her sex, so exquisitely described in the "Evening Prayer in a Girls' School:"—

——Silent tears to weep,
And patient smiles to wear through suffering's hour
And sumless riches from affection's deep
To pour on broken reeds—a wasted shower!
And to make idols, and to find them clay,
To bewail that worship——

If such was the *mind* of her works, the manner in which she wrought out her conceptions was equally individual and excellent. Her imagination was rich, chaste, and glowing; those who saw only its published fruits, little guessed at the extent of its variety. But it is possible that we may recur to the subject again, and this is not the time for deliberate and cold criticism.

It is difficult to enumerate the titles of her principal works. Her first childish efforts were published when she was only thirteen, and we can only speak of her subsequent poems—"Wallace," "Dartmoor," "The Restoration of the Works of Art to Italy," and her "Dramatic Scenes," from memory. These were, probably, written in the happiest period of her life, when her mind was rapidly developing itself, and its progress was aided by judicious and intelligent counsellors, among whom may be mentioned Bishop Heber. A favorable notice of one of these poems will be found in Lord Byron's Letters; and the fame of her opening talent had reached Shelley, who addressed a very singular correspondence to her. With respect to the world in general, her name began to be known by the publication of her "Welsh Melodies," of her "Siege of Valencia," and the scattered lyrics which appeared in the *New Monthly Magazine*, then under the direction of Campbell. She had previously contributed a series of prose papers on Foreign Literature, to *Constable's Edinburgh Magazine*, which, with, little exception, are the only specimens of that style of writing ever attempted by her. To the "Siege of Valencia," succeeded rapidly, her "Forest Sanctuary," her "Records of Women," (the most successful of her works,) her "Songs of the Affections," (containing, perhaps, her finest poem, "The Spirit's Return,") her National Lyrics and Songs for Music,") most of which have been set to music by her sister, and become popular,) and her "Scenes and Hymns of Life." We have no need to speak critically of any of these; the progress of mind and change of manner which they register have already been adverted to in our columns.—Nor need we do more than repeat our conviction that she had not as yet reached the full strength of her powers. A few words with respect to their direction in later days, may be worthily extracted from a letter of hers, which lies before us. She had been urged by a friend to undertake a prose work, and a series of "Artistic Novels," something after the manner of Tieck, and Goethe's *Kunst-Romanen*, as likely to be congenial to her own tastes and habits of mind, and to prove most acceptable to the public.

"I have now," she says, "passed through the feverish and somewhat *visionary* state of mind often connected with the passionate duty of art in early life; deep affections and deep sorrows seem to have solemnized my whole being, and I now feel as if bound to higher and holier tasks, which, though I may occasionally lay aside, I could not long wander from without some sense of dereliction. I hope it is no self-delusion, but I cannot help sometimes feeling as if it were my true task to enlarge the sphere of sacred poetry, and extend its influence' When you receive my volume of "Scenes and Hymns," you will see what I mean by enlarging its sphere, though my plan as yet is very imperfectly developed."

Besides the works here enumerated, we should mention her tragedy "The vespers of Palermo," which, though containing many fine thoughts and magnificent bursts of poetry, was hardly fitted for the stage, and the songs which she contributed to Colonel Hodges' "Peninsular Melodies." And we cannot but once more call the attention of our readers to her last lyric, "Despondency and Aspiration," published in *Blackwood's Magazine* for this month; it is the song of the swan—its sweetest and its last!

In private life, Mrs. Hemans had attached to herself many sincere and steadfast friends. She was remarkable for shrinking from the vulgar honors of *lionism*, with all the quiet delicacy of a gentlewoman; and at a time when she was courted by offers of friendship and service, and homages sent to her from every corner of Great Britain and America, to an extent which it is necessary to have seen to believe, she was never so happy as when she could draw her own small circle round her, and, secure in the honest sympathy of its members, give full scope to the powers of conversation which were rarely exerted in general society, and their existence, therefore, hardly suspected. It will surprise many to be told, that she might, at any moment have gained herself a brilliant reputation as a wit, for her use of illustration and language was as happy and quaint, as her fancy was quick and excursive; but she was, wisely for her own peace of mind, anxious rather to conceal than to display her talent. It was this sensitiveness of mind which prevented her even visiting London after her name had become celebrated; and, in fact, she was not seldom reproached by her zealous friends for undervaluing, and refusing to enjoy the honors which were the deserved reward of her high talents, and for shutting herself up, as it were, in a corner, when she ought to have taken her place in the world of society as a leading star.—The few who knew her will long remember her eager child-like affection, and the sincere kindliness with which, while she threw herself fully and frankly on their good offices, she adopted their interests as her own for the time being.

One of two traits may be further added to this imperfect sketch, though, as some further reminiscences of our friend may possibly be attempted by the writer of this notice, many things which remain to be said will be deferred to a more fitting time. It may be told, that when young, she was remarkable for personal attractions; that her talents for music and drawing (merely another form of the spirit which was the living principle of her life) were of no common order. Her health had for many years been precarious and delicate; the illness of which she died was long and complicated, but, from the first, its close was foreseen; and we know from those in close connection with her, that her spirit was placid and resolved, and that she looked forward to the approach of the last struggle without a fear. It is consolatory to add, that her dying moments were cheered by the kind offices of zealous and faithful friends: for herself, her departure from this world could only be a happy exchange. There is no fear of her being forgotten: we shall long think of her—

Kindly and gently, but as of one
For whom 'tis well to be fled and gone;
As of a bird from a chain unbound,
As of a wanderer whose home is found;—
So let it be!

SUMMARY.

Rich Arrival.—The schr. Creole, arrived yesterday from Tampico, has on board one hundred and seventeen thousand, nine hundred and fifty-nine dollars.

More Specie.—The brig Montilla, arrived yesterday from Carthagena, has on board $48,864.

The Mariner, from Metamoras, about $25,000.

Chicago.—Arrived from June 27th to July 3d, 10 schooners, 1 sloop, and sundry steamboats, with merchandise and passengers. Cleared, 4 schooners.

[*From the Mohawk Courier of July 9th.*]

Our village, presents its usual scene of activity. Traffic seems to be in a prosperous state. Law and medicine have many dealers—we say nothing of the fees they command. Printers' bills are paid and printers' duns regarded—*as usual!*—But it all goes well enough yet. There is a splendid variety in our manner of life; the rude artillery of blasting rocks, discourses rough music "early and late:" and the confused and continuous din of drills borne on the wings of every breeze, gives token of the ultimate triumph over those barriers which so long held defiance to the progress of improvement. To this, and the ordinary occupations of our citizens, add the zest furnished by the occasional visits of strangers—the passing of travellers—prognosticated matches—lovers quarrels—hopes deferred—emigrant's movement's—western land speculations—railroad trials—wood cock shooting, (we guess) pigeon killing—assaults and batteries—Dublin riots, and Irish weddings, and you have but a mere summary of the delights of life in Little Falls, and quite a superficial idea of our "borough scenes."

Naval.—The Navy Commissioners on Friday, visited the Frigate Constitution, and we understand she is ordered to the navy yard for some trifling repairs.

The report of two of our seventy fours being ordered to be got ready for immediate service is, we believe, without foundation.

And it is not true that the 110 gunship on the stocks at Philadelphia, has been ordered to be completed for launching.

The U. S. ship Delaware, Com. Patterson, is expected home in October next.—[Gaz.]

Two bucks were recently found lying dead on John's Island, near Charleston, with their horns inextricably locked. They had probably got themselves in that predicament by a furious encounter. The horns of two bucks, locked in the same way, are preserved in the Beaufort Library, taken from two bucks which were found alive, and killed in the defenceless state in which they had placed themselves.

The Tiger which was seen in Middleboro' woods, and which was afterwards decided to be a *Hyena*, has been killed, and turns out to be a *Peacock*.

The Town of Newark Indicted.—We are, (says the Newark Daily), ashamed to say that this enterprising and flourishing town"! was indicted at the late Sessions of the County Court for not mending its ways. The street specified in the indictment, we understand is that which leads out of Market street to South Orange. Nearly one half the streets of the town might have been included—beginning with Broad street. Shame upon us!

A bill was also found at the same time against the Morris Canal for neglecting to repair its bridges.

Health of the City.—The interments during the last week, in this city, were 124, in Philadelphia they were 158; and in the corresponding week, in this city last year, they were 208.

Storm.—This city and vicinity was visited yesterday afternoon with a rain storm of unusual severity. During the progress of it, Dr. Huddleston's extensive Hotel, known as the Mansion House, situated on Washington Square, was struck with lightning. The electric fluid descended one of the chimneys on the north side of the house, but most fortunately resulted in no serious injury to the building. The shock produced by the clap of thunder which followed was tremendous. There were about one hundred persons in the Mansion House at the time, none of whom were injured.—Troy Whig.]

[*From the Cincinnati Gazette, July 6th.*]

Balloon Ascension.—Mr. Clayton made his proposed balloon ascent on Saturday afternoon, July 4. He succeeded in the handsomest manner. After ascending to a great height, and hovering a short time over the city, he took his course in an easterly direction, not quite so much south as on his previous ascent. There was but little wind. The departure was a few minutes before six. At sundown the balloon was still visible, a mere spec in the Eastern horizon.

Mr. Clayton was supplied for a long voyage, and it was his determination to remain up as long as he found it practicable to do so.

A vast concourse of people witnessed the ascent. It is estimated that from 3500 to 4000 were within the enclosure. All departed much gratified, no accident having occurred to mar the general satisfaction.

P. S.—We learn by passengers that came yesterday afternoon, in the Detroit, that the balloon passed Maysville, a little to the north, at half past eight o'clock, on Saturday evening.

Fur Company Boat Burnt.—The St. Louis Herald of June 26th, says:

A flat boat belonging to the American Fur Company, of this city, arrived here last evening from

the company's post on the Yellow Stone, distant 2000 miles. She brings the news of the total loss of the company's steamboat Assiniboin, by fire. The Assiniboin was lying aground a little below the Mandan villages, where, on or about the first of June, she took fire in the ladies' cabin, and was entirely consumed. The cargo of the Assiniboin, consisting of buffalo Robes, and valued at 70 to $80,000, was wholly destroyed.

[*From the Boston Atlas.*]

IMPROVED LOCK—NEW INVENTION.—A newly improved lock is now exhibiting at City Hall, the invention and manufacture of the Messrs. Cambell, leather dealers in Clinton street, and on examination it strikes us as a complete safeguard. It is a small, simple lock, requiring but one key and that without guards; not liable to get out of order, and if the checks are not wanted it can be conveniently used as a common lock. It is called the revolving check lock, and the key that belongs to it would be of no service to any one not understanding the particular combinations of the checks, as indicated by a certain scale of figures; these can be changed every day in the year, so that a man might be daily shown how to unlock it—and it could be so changed in a minute or two that he would be as little able as a stranger.

We understand that the inventors offor a reward of fifty dollars to any one who will unlock it. They intend making one on a similar plan, somewhat more secure, place it upon a trunk, depositing in the trunk $1000 dollars against any one willing to deposit a similar sum—the condition of the deposit to be that if in the course of a twelvemonth the lock is not opened by the most experienced lock-picker that can be found, the whole sum shall be the property of the inventors; if the lock is opened, they forfeit the entire sum. The key belonging to the lock shall be given up to the person taking the offer, and the Messrs. Cambell will unlock the trunk every day during the year in his presence.

We must confess that this wears a little the aspect of the marvellous—for bolts and bars are so easily cut through by the ingenious, under all the circumstances of silence, secrecy and fear of detection—that it seems to us impossible that any mystery would be devised in the way of a lock, which, many an adroit culprit, with a fair field and no favor and three hundred and sixty-five days and nights before him, could not unriddle. But we give the fact as it was given to us, and the doubting must look for themselves.

MILTON A PUNSTER.—Who would have thought it? Old round-head square-toes, a player upon words—a double intender! And punning in the middle of "Paradise Lost," too—the old quiz!—Turn to your book, gentle reader, and there you will find him describing the feeding of Elijah by the ravens, in these proper words:—

Him thought he by the brook of Cherith stood,
And saw the ravens with their horny beaks
Food to Elijah bringing, even and morn;
Tho' *raven*-ous, taught to abstain from what they brought.

Nor is this a solitary instance; for, by the help of some inquisitorial pains, we have detected the old gentleman at this curious game in several passages of his great work aforesaid. Thus, in the IXth Book, he makes our mother Eve to say—

Serpent, we might have spared our coming hither
Fruitless to me, though *fruit* be here to excess.

In Book Xth is another and an outrageous example of indulgence in the propensity we are illustrating:

—— The blasted stars look'd wan,
And planets, *planet-struck*, real eclipse
Then suffer'd.

Were it not for these preceding cases of *flagrans delictum*, we might be willing to suppose that the following passage, which we extract from the XIth Book, had perhaps no punning intent; but, as it is, we can hardly acquit the offender. Mark how applicable is the description, in the second meaning, to a gentleman entering a ball room just as the usual liquid refreshment is in course of being handed round:

—— Nor could his eye not ken
The empire of *Negus* to his utmost *Port*.

Reading the passage in this sense, (which *will* intrude itself) we cannot fail to remark the additional *strength* given to Negus by the bold figure of personification, as expressed in the personal pronoun.

Who shall venture to say, after this, that Milton has not made extravagant use of the *poetic licence?*

SUNDAY TRAVELLING IN GREAT BRITAIN.—On the discussion in the House of Commons of the Report of the Great Western Railway Bill, Mr. Miles moved the insertion of a clause to prevent travelling thereon on Sunday. After some discussion, Mr. Roebuck, the member for Dublin, rose and said, he saw no more reason why a poor man should be prevented from travelling on a Sunday, than a rich one.

A few Sundays since he was going a little way out of town, and passing along Piccadilly at twelve o'clock, and therefore in the middle of church-time, he met the Duke of Wellington riding—("Hear, hear!")—further on he observed men and horses employed in watering Hyde Park for the benefit of the fine folks—("Hear!")—at Knightsbridge the soldiers were under arms and exercising—("Hear!")—at Hammersmith Bridge he encountered the Lord Chief Justice on horseback—(Cheers and laughter)—and when he reached Hampton Court at three o'clock, whom should he see there but the right honorable Baronet the member for Tamworth. (Much laughter and cheering.) They had a perfect right to enjoy themselves in this way, but so had the poor when they could do it. The rich could go from place to place on horses and in carriages, but travelling on railroads would be chiefly for the benefit of the poor; and it ought not to be restricted. This clause seemed brought forward rather in a Pharisaical than in a Christian spirit, and he hoped it would be rejected. People meddled too much with the morals of each other; let every man take care of his own goodness, and there would be more virtue in the world, though less outward show

A curious case has lately occupied the attention of the Court of Sessions. In Scotland it has been the custom, from time immemorial, for barbers to shave the laboring classes on Sunday mornings, between six o'clock and ten, to fit them for the church. A barber's apprentice in Dundee, however, lately refused to shave on Sundays, and was brought before the magistrates to answer to a complaint at the instence of his master for disobedience. The magistrates ordered him to shave.—The case was appealed, and came before Lord Jeffrey, sitting in the Outer House, when his lordship decided that he was not bound by law to shave on Sundays. The master presented a reclaiming note to the second division of the Court, and they have reversed Lord Jeffrey's judgment, and found that the young man is bound to crop beards on the Sunday mornings. Here the question stands at present, but it is likely to reach the House of Lords. Glasgow has long been celebrated for its orthodoxy; and the Incorporation of Barbers of that city have a rule two centuries old, that if any member shall shave on Sunday, he shall be fined.

BALL IN A MADHOUSE.—The French certainly carry their treatment of the insane to a far higher pitch of refinement than we do. The idea of giving a ball to the inmates of a lunatic asylum may startle some of our mad doctors; but what think they of the following precedent? On the 7th ult., the female patients of the Salpetrière were treated to a grand ball. The insane ladies themselves were intrusted with the getting up of the entertainment; they adorned the ball room with festoons, garlands, and devices; and in the midst, they crowned with *immortelles* the bust of Pinel, the liberator of the insane from the old system of cruelty and terror. The dancing, it is said, went off with charming effect; the students, intern and extern, did the honors; and the festivity was kept up to an hour sufficiently advanced for the satisfaction of all the parties—who, to do them justice, were indefatigable in their exertions to please and to be pleased. It should be added, that the gay scene (which was appointed and arranged with the most serious object) has been generally attended with good effects; it served admirably to fix and amuse the minds of the patients; and several who labored under melancholia were much diverted, for the time, from their imaginary woes.—M. Esquirol some years ago, it seems, tried this method with success; but it is to M. Pariset, the physician of the Saltpetrière, that the credit is due of having so happily ventured on its repetition in the present instance.—[Medical Gaz.]

AUDUBON.—We have seen at COLMAN'S, a most beautiful print by Turner, of our great Ornithologist. It is an admirable likeness, and most spiritedly engraved.

JACKSONVILLE, E. F., June 25.—*Skirmish with a party of Seminole Indians.*—We have been politely favored with the perusal of the following letter addressed to the Postmaster of this place, and have his permission to publish it. We shall feel under obligations to the author, or any other gentleman who will communicate any additional facts in relation to the transaction:

"*Miconopy, June* 20.—My Dear Sir—An express has this moment arrived (as the mail is closing) from Capt. Walker, of the Spring Grove Guards, announcing, that yesterday a rencontre took place of the most unhappy and alarming character, near Mr. Samuel Gieger's, in this county, between a party of about thirty Indians and a party of white men, in which three of the latter (Mr. Giles Ellis his son Underhill Ellis, and Mr. George Rawls were severely wounded by shots from the Indian) The circumstances are not fully known, though is understood that the Indians were detected in killing cattle.

"Capt. Walker has mustered a portion of his command, and gone in pursuit of the Indians.

"Yours in haste, G. HUMPHREYS."

The following list of Cadets will be attached to the Army Register, conformably to a regulation for the government of the Military Academy, requiring the names of the most distinguished Cadets, not exceeding five in each class, to be reported for this purpose at each examination.

1st Class.

1 George W. Morrell, of New York.
2 Charles H. Bigelow, of Massachusetts.
3 John H. Martindale, of New York.
4 Charles J. Whiting, of Maine.
5 George M. Legate, of Maine.

2d Class.

1 Montgomery C. Meigs, of Pennsylvania.
2 Alexander Hamilton, of New York.
3 George D. Welcker, of Tennessee.
4 James L. Mason, of Tennessee.
5 Fisher A. Lewis, of Virginia.

3d Class.

1 Edwin W. Morgan, of Pennsylvania.
2 Henry W. Benham, of Connecticut.
3 Alexander B. Dyer, of Missouri.
4 John W. Gunnison, of New Hampshire.
5 John Bratt, of New York.

4th Class.

1 William H. Wright, of North Carolina.
2 Alexander H. Dearborn, of New York.
3 Stephen H. Campbell, of Vermont.
4 P. G. T. Beauregard, of Louisiana.
5 John T. Metcalfe, of Mississippi.

[Navy and Army Chron.]

OFFICIAL.—[Order No. 38.]

Head Quarters of the Army.

Adjutant General's Office,
Washington, July 1st, 1835.

1. Promotions and appointments in the Army, since the publication of Order No. 24, of May 1st, 1835.

1. PROMOTIONS.

CORPS OF ENGINEERS.

Brevet Captain Cornelius A. Ogden, First Lieutenant, to be Captain, 15th May 1835, vice Blaney deceased.

Second Lieutenant Thompson S. Brown, to be First Lieutenant, 15th May, 1835, vice Ogden promoted.

Brevet Second Lieutenant, Jonathan G. Barnard, to be second Lieutenant, 15th May, 1835, vice Brown promoted, (brevet, 1st July, 1833.)

REGIMENT OF DRAGOONS.

First Lieutenant Philip St. Geo. Cooke, to be Captain, 31st May, 1835, vice Bean resigned.

Second Lieutenant James Allen, to be First Lieutenant, 31st May, 1835, vice Cooke promoted.

Second Lieutenant J. H. K. Burgwin, to be First Lieutenant, 30th June, 1835, vice Davis resigned.

Brevet Second Lieut. Gaines P. Kingsbury, to be Second Lieutenant 31st May 1835, vice Allen promoted, (brevet 1st July, 1832.)

Brevet Second Lieutenant James M. Bowman, to be Second Lieutenant, 30th June, 1835, vice Burgwin, promoted, (brevet 1st July, 1832.)

Brevet Second Lieutenant Asbury Ury, to be Second Lieutenant, 30th June, 1835, vice Watson, resigned, (brevet 1st July, 1832.)

First Regiment of Infantry.

Brevet Second Lieutenant Wm. H. Storer, to be Second Lieutenant, 30th June, 1835, vice Williams resigned, (brevet 1st July, 1832.)

Third Regiment of Infantry.

Second Lieutenant Richard W. Colcock, to be First Lieutenant, 31st May, 1835, vice Harris, resigned.

Brevet Second Lieutenant, James F. Cooper, to be Second Lieutenant, 31st May, 1835, vice Colcock, promoted, (brevet 1st July, 1834.)

Sixth Regiment of Infantry.

Second Lieutenant Francis J. Brooke, to be First Lieutenant, 6th May, 1835. vice Nichols dismissed.

Brevet Second Lieutenant, Geo. H. Griffin, to be Second Lieutenant, 6th May, 1835, vice Brooke promoted, (brevet 1st, July, 1832.)

Seventh Regiment of Infantry.

First Lieutenant Joseph A. Phillips, to be Captain, 4th May, 1835, vice Cross, resigned.

First Lieut. Nicholas Tillinghast, to be Captain, 1st June, 1835, vice Wilkinson, resigned.

Second Lieut. Samuel Kinney, to be First Lieutenant, 4th May, 1835, vice Phillips, promoted.

Second Lieut. Richard H. Ross, to be First Lieutenant, 1st June, 1835, vice Tillinghast, promoted.

Brevet Second Lieut. James G. Reed, to be Second Lieutenant, 4th May, 1835, vice Kinney, promoted, (brevet 1st July, 1834.)

Brevet Second Lieut. Arnold Harris, to be Second Lieutenant, 1st June, 1835, vice Ross, promoted, (brevet 1st July, 1834.)

II. APPOINTMENTS.

Staff.

Sohn C. Reynolds, to be Assistant Surgeon, 1st May, 1835.

Second Regiment of Artillery.

Brevet Second Lieutenant Epaphras Kibby, 1st Artillery, to be Second Lieutenant, 25th January, 1835, vice Chandler, deceased, (brevet first July, 1834.)

Brevet Second Lieutenant Chas. A. Fuller, Third Artillery, to be Second Lieutenant, 28th February, 1835, vice Wilkinson, resigned, (brevet 1st July, 1834.)

Thomas P. Ridgeley, late Lieutenant, Second Artillery, to be Second Lieutenant, 29th May, 1835.

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2. The following named Cadets, constituting the 1st Class of 1835, having been adjudged by the academic Staff, at the June examination, competent to perform duty in the Army, the President of the United States has attached them as supernumerary Second Lieutenants, by brevet, to Regiments and Corps respectively, as candidates for commissions therein.

Corps of Engineers.

Rank.

1. Cadet George W. Morrell, to be brevet Second Lieutenant, 1st July, 1835.

2. Cadet Charles H. Bigelow, to be brevet Second Lieutenant, 1st July, 1835.

Regiment of Dragoons.

3. Cadet Jno. H. Martindale, to be brevet Second Lieutenant, 1st July, 1835.

25. Cadet Alexander S. Macomb, to be brevet Second Lieutenant, 1st July, 1835.

26. Cadet John H. Hanly, to be brevet Second Lieutenant, 1st July, 1835.

34. Cadet Philip R. Thompson, to be brevet Second Lieutenant, 1st July, 1835.

42. Cadet Jones M. Withers, to be brevet Second Lieutenant, 1st July, 1835.

51. Cadet Benj. S. Rogers, to be brevet Second Lieutenant, 1st July, 1835.

52. Cadet Wm. N. Grier, to be brevet Second Lieutenant, 1st July, 1835.

First Regiment of Artillery.

6. Cadet Alfred Herbert, to be brevet Second Lieutenant, 1st July, 1835.

7. Cadet Arnoldus Brumby, to be brevet Second Lieutenant, 1st July, 1835.

13. Cadet James N. Ellis, to be brevet Second Lieutenant, 1st July, 1835.

21. Cadet George G. Waggaman, to be brevet Second Lieutenant, 1st July, 1835.

Second Regiment of Artillery.

4. Cadet Charles J. Whiting, to be brevet Second Lieutenant, 1st July, 1834.

5. Cadet George M. Legate, to be brevet Second Lieutenant, 1st July, 1835.

9. Cadet Horace Brooks, to be brevet Second Lieutenant, 1st July, 1835.

10. Cadet James M. Morgan, to be brevet Second Lieutenant, 1st July, 1835.

12. Cadet Richard Henderson, to be brevet Second Lieutenant, 1st July, 1835.

17. Cadet James H. Stokes, to be brevet Second Lieutenant, 1st July, 1835.

Third Regiment of Artillery.

14. Cadet John L. Keais, to be brevet Second Lieutenant, 1st July, 1835.

15. Cadet William S. Brown, to be brevet Second Lieutenant, 1st July, 1835.

19. Cadet George Meade, to be brevet Second Lieutenant, 1st July, 1835.

Fourth Regiment of Artillery.

8. Cadet Joseph Roberts, to be brevet Second Lieutenant, 1st July, 1835.

11. Cadet Robert M. Renick, to be brevet Second Lieutenant, 1st July, 1835.

18. Cadet Montgomery Blair, to be brevet Second Lieutenant, 1st July 1835.

First Regiment of Infantry.

28. Cadet Peter C. Gaillard, to be brevet Second Leiutenant, 1st July, 1835.

38. Cadet Samuel M. Plummer, to be brevet Second Lieutenant, 1st July, 1835.

39. Cadet John M. Scott, to be brevet Second Lieutenant, 1st July, 1835.

40. Cadet George W. Shaw, to be brevet Second Lieutenant, 1st July, 1835.

Second Regiment of Infantry.

16. Cadet Henry L. Kendreck, to be brevet Second Lieutenant, 1st July, 1835.

36. Cadet S. T. Tibbatts, to be brevet Second Lieutenant, 1st July, 1835.

44. Cadet John W. Scott, to be brevet Second Lieutenant, 1st July, 1835.

46. Cadet R. M. Patrick, to be brevet Second Lieutenant, 1st July, 1835,

Third Regiment of Infantry.

29. Cadet Herman Haupt, to be brevet Second Lieutenant, 1st July, 1835.

33. Cadet William S. Henry, to be brevet Second Lieutenant, 1st July, 1835.

41. Cadet Joseph H. Eaton, to be brevet Second Lieutenant, 1st July, 1835.

45. Cadet Larkin Smith, to be brevet Second Lieutenant, 1st July, 1835.

Fourth Regiment of Infantry.

31. Cadet Alexander M. Mitchell, to be brevet Second Lieutenant, 1st July, 1835.

43. Cadet Isaac Reve, to be brevet Second Lieutenant, 1st July, 1835.

Fifth Regiment of Infantry.

23. Cadet Henry M. Naglee, to be brevet Second Lieutenant, 1st July, 1835.

32. Cadet Alexander H. Tappen, to be brevet Second Lieutenant, 1st July, 1835.

35. Cadet W. M. D. McKissack, to be brevet Second Lieutenant, 1st July, 1835.

48. Cadet Joseph H. Whipple, to be brevet Second Lieutenant, 1st July, 1835.

50. Cadet R. A. Wainwright, to be brevet Second Lieutenant, 1st July, 1835.

Sixth Regiment of Infantry.

24. Cadet Archibald Campbell, to be brevet Second Lieutenant, 1st July, 1835.

33. Cadet W. H. De Forest, to be brevet Second Lieutenant, 1st July, 1835.

53. Cadet Thomas T. Brent, to be brevet Second Lieutenant, 1st July, 1835.

Seventh Regiment of Infantry.

20. Cadet William H. Betts, to be brevet Second Lieutenant, 1st July, 1813.

22. Cadet W. K. Hanson, to be brevet Second Lieutenant, 1st July, 1835.

27. Cadet W. H. Griffin, to be brevet Second Lieutenant, 1st July, 1835.

37. Cadet James M. Wells, to be brevet Second Lieutenant, 1st July, 1835.

47. Cadet Thomas B. Alden, to be brevet Second Lieutenant, 1st July, 1835.

49. Cadet Lucius Bradbury, to be brevet Second Lieutenant, 1st July, 1835.

III. CASUALTIES.

Resignations.

Captains.

Jesse Bean, Dragoons, 31st May, 1835.
Trueman Cross, 7th Infantry, 4th May, 1835.
N. G. Wilkinson, 7th Infantry, 1st June, 1835.

First Lieutenants.

Jefferson Davis, Dragoons, 30th June, 1835.
Nathaniel S. Harris, 3d Infantry, 31st May, 1835.

Second Lieutenants.

John L. Watson, Dragoons, 30th June, 1835.
Edward R. Williams, 1st Infantry, 30th June, 1835.

Brevet Second Lieutenants.

Abram G. Edwards, Dragoons, 2d may, 1835.
Eustace Robinson, 4th Infantry, 11th June 1835.

Death.

Brevet Major George Blaney, Capt. Corps of Engineers, 15th May, 1835.

Dismissed.

1st Lieutenant John Nichols, 6th Infantry, 6th May, 1835.

3. The officers promoted and appointed will report accordingly, and join their proper stations and companies without delay; those on detached service, or acting under special orders and instructions, will report, by letter, to their respective Colonels.

4. The Brevet Second Lieutenants will join their respective regiments, and report in person for duty, agreeable to regulations, by the 15th day of October; and report immediately, by letter, to their respective Colonels, who will assign them to companies.

By order of Alexander Macomb,
Major General Commanding in Chief.
R. Jones, Adjutant General.

MEMORANDA.

Correction of Dates.

First Lieutenant Joseph D. Searight, 6th Infantry, to rank from 18th April, 1835, vice Richardson, deceased.

Second Lieutenant John Conrad, 6th Infantry, to rank from 18th April, 1835, vice Searight, promoted.

[For the New-York American.]

Musings.—*By Flaccus, in the Country.*

"When my mirth ceases to be instructive, it shall never cease to be innocent."—[Addison.]

THE LAMENT OF BACCHUS.

My sun is setting on degraded times,
My hopes are wreck'd, beyond the power to save;
For temp'rance monsters rove these fallen climes,
And threat me, Bacchus, with a *watry* grave.
Oh! could I weep, my grief would trickle here—
But no—a foe to *water* scorns a *tear*.

For this free land, I left mine eastern home,
(Freedom with Bacchus ever is allied,)
For I had heard of old New England *rum*,
And for its love the ocean-waves defied;
And 'mid mint-juleps, slings, and cocktails, here
Was reigning god for many a jolly year.

Taverns, my temples—bars, my altars shone,
And high, and low would worship at my shrine;
The chrystal *bottle*, then the rich did own,
The honest *jug*, poor devil, then was thine—
Little cared we, old mates for rain or thunder,
When *wine* was *on* the board, and *we* were *under*.

Now, all is changed, and water is the cry!
Canals, presumptuous, course each tavern side,
And aqueducts, their horrid wash supply,
'Til Philadelphia splashes with the tide—
But Gotham baulked all such hydraulick ends,
For in its *councils* I had many *friends*.

Stout worthies they, who saved us that disgrace
With hydrophobick zeal, for many a year;
But they are gone—a wishy-washy race
Of vile *aquatics* follow in their rear
Would pour all *Croton* on us—horrid wish!
To deluge *men* with what was meant for *fish*.

I sink 'neath *temp'rance's* most *intemp'rate* rage—
Now *Rushton's* soda spouts it's ceaseless stream—
Degenerate *Niblo* truckles to the age,
And sells ice-cream—ye Gods! *what is ice-cream?*
And *Willard* throws (though truest of the bunch)
A *dash* too much of *water* in his punch.

Oh! Brandy, Whiskey, Arrack, Hollands, Rum!
Disull'd perfections!—alcoholic graces!
Ye glorious Wines! your mortal foes have come
And label'd "*poison*" on your rosy faces—
While ye are slandered, can I tamely sit?
What man of *spirit*, ever could submit?—

Ye are allowed, our sickness to appease,
If so, then never should we cease to fill,
For life itself is but one *long disease*
And wine the *drug* for every corporal ill—
Life is a punch, whate'er you prosers think—
Which, of its *spirit* robb'd, ah! who would drink?

Not Bacchus—death shall sooner end my cares—
And will, if longer in this watery West—
My limbs are soaked—my surgeon, too, declares,
(Terrific thought!) there's *water in my chest!*
Farewell, ye streams—rejoice, ye rainy skies!—
Niagara! roar, for mighty Bacchus flies.

Place me again on Egypt's burning sand,
From whence I sprang—where *springs* are ever *dry*;
Where *rains* and *dews* no more defile the land,
And *water* is unknown—there let me lie—
There, nobly dying, my *last bottle* drain,
And, in the *land of spirits*, live again!

W.
No. 6.

LATER FROM FRANCE.—The following extracts are from papers received by the Courier and Enquirer per Isaac Clason, arrived yesterday from Bordeaux.

PARIS, June 12.—The question of intervention is arranged between the powers which are parties to the Quadruple Treaty, and the English journals received yesterday fully confirm what we have written on the subject. A new energy is to be given to the execution of the Treaty. The resources which will be placed at the disposal of General Valdez, will enable him probably to assume the offensive, while the active co-operation of the allies of Queen Isabel II. will give to her government a more energetic action against the factions which oppose her authority.

The English journal the Globe, which is understood to receive official communications from the Ministers, says it is not authorized to announce any particular measure adopted by the government to facilitate the enlistment of English subjects for the service of the Queen of Spain, but that it has strong reasons to believe that the provisions of the foreign enlistment bill will be modified, and that English officers will be permitted to serve as volunteers in the Peninsula without the loss of their half-pay.

BORDEAUX, June 10.—We have received by the extraordinary conveyance, news from Lisbon to the 27th of May, which announces an important change in the Ministry. On the 25th the Queen charged the Marquis of Saldanha with the formation of a new ministry, and on the 27th he formed it as follows:

Saldanha, President of the Council and Minister of War; the Duke of Palmella, Minister of Foreign Affairs; Marquis de Loule, Marine; Francisco Antonio de Campos, Finance; Juan de Sousa Pinto de Magalhaes, Interior; Manuel Antonio Carvalho, Justice and Worship.

These names, known and honored in the patriotic annals of the country, have been received by the whole population with acclamations of joy.

LEGHORN, May 25.—Don Miguel is awaking from his lethargy. He left Rome secretly on the 21st, and embarked at Civira Vecchia, on board the steamboat Sully, which arrived here day before yesterday, and left the same day for Genoa and Marseilles. It is said that Don Miguel was seen here habited as a servant, and that the next day he arrived at Genoa in the same dress. There is no doubt but he will go by land to Turin as a servant of some personage. It is probable he will then take the route for Geneva, and proceed to Holland, where he will find a government disposed to aid him.

NAPLES, May 23.—For some days past, a great rumbling has been heard in the interior of Vesuvius, and it has not yet ceased.

MEXICO.—In addition to the intelligence we published yesterday from this republic, we now lay before our readers, a letter received from Vera Cruz through the Post Office.

VERA CRUZ, June 22d, 1835.

To the Editors of the Courier and Enquirer:

Gentlemen—I avail myself of the departure of the Elbe to inform you that the attack of Santa Anna on the state of Zacatecas, was completely successful. The sovereignty of that state has been destroyed, and it is now in the full enjoyment of all the privileges and immunities of a millitary government, directed adroitly by the priesthood. The torch of rational liberty is extinguished in the Republic, save in the petty and insignificant state of Chiapas, whose worthy Governor is yet making a manly resistance to the encroachments of arbitrary power. Since the downfall of Zacatecas, all the principal cities and villages of the interior have pronounced for centralism. They have been goaded in to this expression of feeling by the military arm, which acts under the direction of the friars and priesthood. This city has not yet followed the example of her more powerful neighbors; it is thought the citizens want the gentle stimulus of bayonets in order to arouse them to a proper sense of the important advantages that will result to them by destroying the present system of government, and substituting a central government or a monarchy—the latter is the most probable.

The excesses committed by the victor Santa Anna and his troops in Zacatecas and vicinity, are without a parallel in the history of civilized nations. It appears that all strangers were exposed to their diabolical rage: the only American in the place was basely assassinated in the presence of his wife, who was afterwards stabbed to the heart, stripped of her clothing and thrown exposed into the street. The English residents at the mines were robbed, their property wantonly destroyed, and some murdered and all menanced with extermination. The English Minister has made a peremptory demand for indemnity to his Majesty's subjects for the injuries done to their property, which he will doubtless obtain. We have no Minister at this Court to make a similar demand for the injuries done our citizens, and if made by our late Chargé des Affaires, it would doubtless be unavailing, as in all previous ones. The impropriety with which the authorities of this country have outraged both the persons and property of our citizens, renders them peculiarly obnoxious to future abuse from the authorities during their civil commotions, of which the country has been abundantly prolific for the last ten years.

The immortal, omnipotent Santa Anna, the singular hero of America, the Napoleon of this continent, (all terms of modest praise which the clergy of this country have bestowed on their favorite,) was to have made his triumphal entry yesterday into the capitol; the majesty and splendor of the scene will doubtless have rivalled that of Pompey's into Rome, and eclipsed every thing of the kind on this continent.

CIRCULAR. To ENGINEERS and Superintendants of Railroads and Canals.—I am preparing to issue a *new* edition of my RAILROAD AND CANAL MAP; and being desirous to correct the errors of the first edition, I take the liberty to request the ENGINEER, or SUPERINTENDENT, of every Railroad and Canal in the UNITED STATES, to furnish me at his earliest convenience with a *full* and *precise* account of the condition of the railroad under his direction or charge. He is requested to state the length of the road, the number of miles completed, the elevation it surmounts, the radius of its curves, the style of its construction, its average cost per mile, the number, if any, of inclined planes, with stationary engines—*in short, every thing which may be of interest* to engineers, or others who may be connected with the subject of Railroads and Canals.

To such as comply with the above request, and furnish the desired information previous to the *first of August* next, a copy of the new edition of the Railroad and Canal Map, will be sent, by mail or otherwise, as may be directed, as soon as completed.

D. K. MINOR.

New-York, June 27, 1835.

PARTNER WANTED.

Wanted, a partner in an extensive Printing Establishment. No one need apply who is not a thoroughbred printer, competent to superintend and direct an office in which upwards of 30 persons are employed, and able to furnish $3000 cash capital. The best of references will be given and required. Letters, with *real* name, may be addressed to P. P. P., Post Office, New-York, postage paid, and they will be promptly attended to. May-tf

TO TUNNEL MINERS, DRILLERS, &c.

Wanted, immediately, 40 Tunnel Miners, (Cornish Miners will be preferred,) 80 Drillers, 50 Laborers, and two experienced Mine Blacksmiths, on the New York and Harlem Railroad, about five miles from the City. Liberal wages will be given, and cash payments made every fort night. Apply at Mr. FOWLER'S, St. John's Hall, Frankfort street, New-York.

JOHN RUTTER, Contractor.

☞ The Albany Argus, Philadelphia U. S. Gazette and Pennsylvanian, will please copy this, and send their bills to the Railroad Company, 14 Wall street, New-York. 23—tf

RAILROAD IRON.

500 Tons Railroad Iron, 2 inch by ½, with Spikes and Spiking Plates to match, for sale by

WM. G. BULL & CO.

26—3tp 74 Wall-st.

RAILROAD CASTINGS.

MANY & WARD, Proprietors of the Albany Eagle Air Furnace and Machine Shop, will make to order car wheels, chairs and knees, and every other description of castings required for railroads. R-1y feb14

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

☞ Railroad Spikes of every description required, made at the Albany Spike Factory.

Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use

Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y. sept.13-1y

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad,

No. 264 Elizabeth street, near Bleecker street, New-York.

☞ RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad now in operation. J26 tf

RAILROAD CAR WHEELS AND BOXES,

AND OTHER RAILROAD CASTINGS.

☞ Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to.

Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR

RAILWAY IRON.

95 tons of 1	inch by	½	inch,	*Flat Bars*	in lengths o
200 do.	1¼ do.	⅜	do.	14 to 15 feet,	counter sunk
40 do.	1½ do.	⅜	do.	holes, ends	cut at an angle
800 do.	2 do.	⅜	do.	of 45 degrees,	with spli-
800 do.	2½ do.	⅜	do.	cing plates	and nails to
soon expected.				suit.	

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels

Axles of 2½, 2⅝, 2⅞, 3, 3½, 3¼, and 3½ inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment. A. & G. RALSTON.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use both in this country and Great Britain, will be exhibited to those disposed to examine them. d7lmeowr

SURVEYORS' INSTRUMENTS.

☞ Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by

E. & G. W. BLUNT, 154 Water street,

J31 6t corner of Maiden lane.

SURVEYING AND ENGINEERING INSTRUMENTS.

☞ The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely *new*; among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also a Railroad Goniometer, with two Telescopes—and a Leveling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker,

No. 9 Dock st., Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee the following information. The whole number of Levels now in possession of the department of construction of thy make is seven The whole number of the "Improved Compass" is eight These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Sup't of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.

ml 1y Germant. and Norrist. Railroad